UNIVERSITY OF HAWAII
LIBRARY

OCT 14 '64

NUCLEAR INSTRUMENTS & METHODS

A JOURNAL ON ACCELERATORS, INSTRUMENTATION
AND TECHNIQUES IN NUCLEAR PHYSICS

EDITOR: K. SIEGBAHN - UPPSALA

MASTER INDEX

VOLUMES 11-20

LAST ISSUE OF VOLUME 20

NORTH-HOLLAND PUBLISHING COMPANY — AMSTERDAM

NUCLEAR INSTRUMENTS AND METHODS

A journal on accelerators, instrumentation and techniques in nuclear physics

EDITOR: K. SIEGBAHN, UPPSALA

EDITORIAL BOARD:

J. B. ADAMS (Abingdon, Berks.)
F. A. ALSINA (Caracas)
E. AMALDI (Rome)
H. L. ANDERSON (Chicago)
K. T. BAINBRIDGE (Cambridge, Mass.)
P. R. BELL (Oak Ridge)
R. E. BELL (Montreal)
H. BRINKMAN (Groningen)
E. H. COOKE-YARBOROUGH (Harwell)
M. DE HEMPTINNE (Louvain)
A. DE-SHALIT (Rehovoth)
M. DEUTSCH (Cambridge, Mass.)
S. DU TOIT (Petoria)
B. S. DŽELEPOW (Leningrad)
W. GENTNER (Heidelberg)
F. S. GOULDING (Berkeley)
P. C. GUGELOT (Amsterdam)
O. HAXEL (Heidelberg)
P. HUBER (Basel)
S. KIKUCHI (Tokyo)
J. KOCH (Copenhagen)
M. S. KOSODAEV (Moscow)
S. LIVINGSTON (Cambridge, Mass.)
E. M. MCMILLAN (Berkeley)
M. G. MESCHERYAKOV (Moscow)
P. B. MOON (Birmingham)
M. L. OLIPHANT (Canberra)
W. PAUL (Bonn)
A. S. RAO (Bombay)
G. SALVINI (Rome)
P. SAVIĆ (Belgrade)
CH. SCHMELZER (Heidelberg)
R. TANGEN (Oslo)
D. TAYLOR (Northampton)
V. I. VEKSLER (Moscow)
G. VON DARDEL (CERN)
O. WERNHOLM (Stockholm)
R. R. WILSON (Cornell)
S. D. WINTER (Saclay)

INSTRUCTIONS FOR CONTRIBUTORS

Contributions may be sent to the Editor, Professor K. Siegbahn, Institute of Physics, University of Uppsala, Sweden, either directly or through the intermediary of one of the members of the Editorial Board.

Short contributions, less than 1500 words, may be published as Letters to the Editor. Such contributions will be published in a shorter time than regular articles and the proofs of these short articles will be corrected by the publisher.

Contributions may be written in English, French or German but should always, except for the short contributions submitted as Letters to the Editor, have an abstract in English. Name(s) of author(s) should be given on the manuscript as well as the name and address of the institute where the research work has been done. (Proofs will be sent by the publisher to this address.)

Figures should be inked original drawings or (preferably not) glossy prints, ready for direct reproduction. All details should be sufficiently large to show up clearly in the reduced size of the printed figure. All figures should have captions.

Books for review should be sent to Professor Siegbahn.

Objective and descriptive material on endeavours and product developments from the industry for the section "Spotlight on Industry" should be sent directly to the publishers, North-Holland Publishing Company, P.O. Box 103, Amsterdam.

Nuclear Instruments and Methods is published monthly. The subscription price of a volume of 360 pages is $ 17.00 (130s), postage free.

Subscriptions should be sent to the publishers, North-Holland Publishing Company, P.O. Box 103 Amsterdam, or to any subscription-agent.

Claims for missing numbers should be made within two months, following the date of publication. The publishers expect to supply missing numbers free only when losses have been sustained in transit and when the reserve stock will permit.

© No part of this issue may be reproduced in any form, by print, photoprint, microfilm or any other means without written permission from the publisher.

Printed in the Netherlands

AUTHOR INDEX

ABE, N., *see* OGAWA **16** (1962) 227

ADLER, A., M. PALMAI and V. PEREZ-MENDEZ, 100Mc/s tunnel-diode discriminator and pulseshaper **13** (1961) 197

AGENO, M., Low jitter pulse discriminator and shaper **12** (1961) 341

AGENO, M. and C. FELICI, A new type of fast amplifier **16** (1962) 59

AITKEN, J. H., An electronic pulse multiplier for applications in nuclear physics **14** (1961) 343

AKIYOSHI, TSUNEKAZU, *see* SONODA **12** (1961) 349

AKUTSU, JUICHI, A mechanism of the propagation of Geiger discharge in halogen-quenched G.M. counters **14** (1961) 87

ALBERIGI-QUARANTA, A., B. RIGHINI, V. PRODI and O. RIMONDI, On a 2π gas-flow counter for low-level counting **14** (1961) 13

ALBERIGI-QUARANTA, A. and B. RIGHINI, Single channel transistorized pulse height analyzer **14** (1961) 173

ALBERIGI-QUARANTA, A. and B. RIGHINI, A new encoder **20** (1963) 355

ALEXANDER, PETER, System for automatic recording of nuclear data **14** (1961) 288

ALEXANDER, T. K. and F. S. GOULDING, An amplitude-insensitive system that distinguishes pulses of different shapes **13** (1961) 244

ALEXANDER, T. K. and D. R. HEYWOOD, A twenty-Mc/s transistor decade scaler **13** (1961) 83

ALIKHANYAN, A. I., E. U. LAZIEV and W. A. TUMANYAN, On a possible method of registration of high-energy neutrinos **20** (1963) 276

ALLEN, J. W. and P. E. GIBBONS, Gallium phosphide diodes for the production of fast light pulses (Letter to the Editor) **14** (1961) 355

ALLEN, J. S., *see* BRUSSEL **18, 19** (1962) 520

ALLEN, K. W., Recent research in nuclear reactions using the Aldermaston tandem generator **11** (1961) 93

ALMAZOV, V. YA., I. A. GOLUTVIN, V. D. INKIN, YU. A. KARZHAVIN, V. D. NEUSTROEV, V. D. STEPANOV and I. V. CHUVILO, A device for automatic measurement of chamber photographs APS-1 M **20** (1963) 437

ALMÉN, O. and G. BRUCE, Collection and sputtering experiments with noble gas ions **11** (1961) 257

ALMÉN, O. and G. BRUCE, Sputtering experiments in the high energy region **11** (1961) 279

ALTMAN, E., *see* ROZEN **17** (1962) 337

AMATO, G., H. COURANT, H. FILTHUTH, E. MALAMUD, G. PETRUCCI, A. M. SEGAR, W. T. TONER and W. WILLIS, A one-stage separated K-meson beam of 1.5 GeV/*c* momentum at the CPS **20** (1963) 47

AMATO, G., W. A. COOPER, Y. KORNELIS and L. NAUMANN, Automatic gap counting . . . **20** (1963) 141

AMATO, G., E. CHESI and J. C. LAMBERT, Multichannel oscilloscope system **20** (1963) 341

AMMAN, FERNANDO, The KS-3 MeV Van de Graaff injector of the Frascati electron synchrotron **11** (1961) 169

ANDERS, H., D. MAEDER and D. WISKOTT, A preliminary study of a cathode ray tube device for scanning spark chamber photographs **20** (1963) 414

ANDERSON, CARL E., D. A. BROMLEY and M. SACHS, Simultaneous nuclide identification and energy measurement of nuclear reaction products **13** (1961) 238

ANDERSON, D. W. and J. MCKENZIE, A propane bubble chamber with mechanical expansion **13** (1961) 231

ANDERSON, F., *see* ANDROULAKIS **20** (1963) 100

ANDERSON, HERBERT L., Alpha particle thickness gauge using a solid state detector . . . **12** (1961) 111

ANDERSON, J. C., *see* PARZEN **18, 19** (1962) 338

ANDERSON, J. D. and C. WONG, The Livermore 90-inch-cyclotron neutron-time-of-flight facility **15** (1962) 178

ANDREEN, C.-J., W. PARKER and H. SLÄTIS, High efficiency small volume G-M detector (Letter to the Editor) **15** (1962) 205

ANDREEN, C-J., Electron scattering experiments using an intermediate image beta-ray spectrometer **17** (1962) 321

ANDREEN, C-J., *see* PARKER W. **15** (1962) 200

ANDREJEV, E. M., P. HIRŠL, G. M. KADIKOV, S. M. KORENCHENKO, V. M. LACHINOV, A. G. MOROZOV, K. G. NEKRASOV, R. POSE, M. I. POPOV, V. V. SMIRNOV, N. S. TOLSTOJ and I. A. ZARUBIN, Apparatus for automatic treatment of photographs obtained from bubble chambers **11** (1961) 297

ANDROULAKIS, J. G., J. A. BAMBERGER, D. P. BROWN, H. O. COURTNEY, B. B. CULWICK, J. J. DIENER, W. B. FOWLER, C. L. GOODZEIT, J. HANUSH, E. L. HART, H. HOUTSAGER, J. E. JENSEN, D. A. KASSNER, D. T. LIVERIOS, R. I. LOUTTIT, S. C. MO, T. W. MORRIS, R. B. PALMER, P. A. PION, R. R. RAU, E. RUTAN, R. P. SHUTT, J. H. SONDERICKER, A. M. THORNDIKE, W. A. TUTTLE, I. J. WINTERS, H. WOELFEL, D. H. WRIGHT, S. S. YAMAMOTO, F. ANDERSON, H. W. COURANT and H. L. KRAYBILL, Brookhaven National Laboratory 80″ hydrogen bubble chamber status and plans **20** (1963) 100

ARMBRUSTER, R., *see* GORODETZKY **13** (1961) 282

ARMBRUSTER, R., *see* GORODETZKY **14** (1961) 205

ARMBRUSTER, R., *see* GORODETZKY **17** (1962) 353

ARNETTE, T. I., H. G. BLOSSER, M. M. GORDON and D. A. JOHNSON, Cyclotron programs for a small computer **18, 19** (1962) 343

ARNETTE, T. I., *see* BLOSSER **18, 19** (1962) 488

ARONSTEIN, T., *see* WHITE **20** (1963) 393

ARZUMANOV, A. A., R. A. METSHCHEROV, E. S. MIRONOV, L. M. NEMENOV, S. N. RIBIN and J. A. KHOLMOVSKIJ, Extraction of a beam and energy regulation in the cyclotron with azimuthally varying magnetic field (Letter to the Editor) **12** (1961) 363

AŠNER, A. and R. MOSIG, A d.c. magnet power supply for 125 V, 500 A with controlled silicon rectifiers **20** (1963) 35

ATTERLING, H., Beam-transport system for the Berkeley 88-inch cyclotron **18, 19** (1962) 589

AUBERT, B., H. COURANT, H. FILTHUTH, A. SEGAR and W. WILLIS, Low energy separated beam at the CERN PS **20** (1963) 51

AZUMA, R. E., *see* CURRIE **13** (1961) 215

BACKENSTOSS, G., B. D. HYAMS, G. KNOP and U. STIERLIN, Properties of a total absorption scintillation detector for particles in the GeV region **20** (1963) 294

BÄCKLIN, A., *see* BÄCKSTRÖM **16** (1962) 199

BÄCKSTRÖM, G., A. BÄCKLIN, N. E. HOLMBERG and K. E. BERGKVIST, A magnetic spectrometer for neutron capture experiments . . **16** (1962) 199

BAIRD, Q. L., J. C. NALL, S. K. HAYNES and J. H. HAMILTON, A Moussa-Bellicard type iron-free double-focusing beta-ray spectrometer **16** (1962) 275

BAKER, STANLEY C., QUENTIN A. KERNS, FREDERICK A. KIRSTEN, DICK A. MACK and THOMAS A. NUNAMAKER, Test routines and monitoring for a large counter experiment . **12** (1961) 1

BAKER, STANLEY C., FREDERICK A. KIRSTEN, DICK A. MACK and CLYDE WIEGAND, An electronic data-acquisition system for use with a complex nuclear physics experiment **12** (1961) 11

BAKER, STANLEY C., A transistor coincidence-discriminator circuit for 10^{-8}-second pulses **12** (1961) 20

BAKER, W. F., A computer program to optimize magnets in a beam transport system . . . **20** (1963) 55

BALANDIN, M. P., N. G. BORISOV, WANG YUNG-CHANG, R. P. KUKHAREVA, V. A. MOISEENKO, V. I. SNYATKOV, M. I. SOLOVIEV and I. V. CHUVILO, A 2-metre propane bubble chamber **20** (1963) 110

BALDINGER, E., Tunnel-diodes in fast circuits **20** (1963) 309

BALEA, O., M. BATAGUI, A. MIHUL and C. POTOCEANU, A device for the determination of track-ionization in bubble chambers **20** (1963) 140

BALLAM, J., *see* CHU **20** (1963) 31

BALLINI, R. et E. POMELAS, Mesure de temps courts par semi-conducteurs et photomultiplicateurs saturés **11** (1961) 331

BALLINI, R., Y. CASSAGNOU et J. M. F. JERONYMO, Analyse bi-dimensionnelle du temps de vol de neutrons de quelques dizaines de keV et de l'énergie des γ émis en coïncidence . . **14** (1961) 222

BALTAY, C., J. SANDWEISS, J. SANFORD, H. BROWN, M. WEBSTER and S. YAMAMOTO, The separated beam at the AGS-performance with antiprotons and π^+-mesons **20** (1963) 37

BAMBERGER, J. A., *see* ANDROULAKIS **20** (1963) 100

BARBIER, M., P. LAPOSTOLLE, M. MORPURGO and N. VOGT-NILSEN, On the design of an isochronous cyclotron meson factory . . **18, 19** (1962) 425

BARBIER, M., J. D. DOWELL, P. I. P. KALMUS, B. LEONTIC, A. LUNDBY, R. MEUNIER, G. PETRUCCI, L. SOLINAS, J. P. STROOT and M. SZEPTYCKA, Design and performance of a small-angle, high intensity secondary particle beam from the CERN proton synchrotron . **20** (1963) 66

BARDIN, B. M., *see* LIND **18, 19** (1962) 129

BARDWICK, J., J. M. LAMBERT and W. C. PARKINSON, The University of Michigan 83-inch cyclotron, IV. The external beam handling system **18, 19** (1962) 105

BARNA, ARPAD, J. HOWARD MARSHALL and MATTHEW SANDS, A multifold coincidence-veto circuit using transistors **12** (1961) 43

BARNARD, A. C. L., *see* ROUT **11** (1961) 347

BARTLETT, A. A., R. A. RISTINEN and R. P. BIRD, A new double focusing beta spectrometer and the empirical optimization of its performance **17** (1962) 188

BARTON, J. C. and A. CRISPIN, Simple logarithmic pulse height analysers **16** (1962) 39

BARTON, R., *see* GRAHAM **15** (1962) 40

BARUCH, P., The use of the electron accelerator in solid state physics **11** (1961) 196

BASHANDY, EKBAL, Methods for the measurement of sub-nanosecond lifetimes of low-energy nuclear levels **12** (1961) 227

BASHKIN, S. and T. R. OPHEL, A liquid air trap for nuclear spectroscopy (Letter to the Editor) **15** (1962) 112

BASSEL, R. H., R. S. BENDER and J. G. INNES, Analyzing methods for ORIC magnetic fields **18, 19** (1962) 303

BASSON, J. K. and J. A. DENNIS, Measurement of the energy response of a B^{10} shielded U^{235} fission chamber **16** (1962) 321

BASTIDE, R. P., *see* ROSE **14** (1961) 79

BATAGUI, M., *see* BALEA **20** (1963) 140

BATCHELOR, R., W. B. GILBOY, J. B. PARKER and J. H. TOWLE, The response of organic scintillators to fast neutrons **13** (1961) 70

BATTY, C. J., R. J. GRIFFITHS and P. E. GIBBONS, Some results using bulk ionisation semi-conductor detectors **17** (1962) 125

BAYUKOV, YU. D., G. A. LEKSIN, D. A. SUCHKOV and V. V. TELENKOV, Spark chambers with small amount of material along the tracks **20** (1963) 198

BEALL, E. F., W. HOLLEY, D. KEEFE, L. T. KERTH, J. J. THRESHER, C. L. WANG and W. A. WENZEL, Cylindrical spark-chamber array used for the measurement of angle, range and polarization in a study of K^--p interactions **20** (1963) 205

BECKURTS, K. H., Reactor physics research with pulsed neutron sources **11** (1961) 144

BEGHIAN, L. E. and M. K. SALOMAA, A high intensity nanosecond pulsed Van de Graaff accelerator **17** (1962) 181

BEHR, L. and P. MITTNER, Electrons and π^0-measurements in a heavy liquid bubble chamber **20** (1963) 446

BELL, R. E., Higher order events in coincidence counting (Letter to the Editor) **12** (1961) 199

BELL, R. E., *see* GRAHAM **15** (1962) 40

BELL, R. E., *see* ONNO **17** (1962) 149

BELONOGOV, A. V., A. A. BELUSHKINA, R. VINAVER, V. N. VINOGRADOV, V. V. GLAGOLEV, E. I. DYACHKOV, A. G. ZEL'DOVICH, N. K. ZEL'DOVICH, E. V. KOZUBSKY, R. M. LEBEDEV, M. MALY, N. N. MELNIKOVA, A. M. MOISEEV, I. S. SAITOV, YU. A. TURBIN, E. P. USTENKO, I. V. CHUVILO and YU. A. SHISHOV, A liquid hydrogen bubble chamber of volume 950 × 350 × 300 mm³ **20** (1963) 114

BELUSHKINA, A. A., *see* BELONOGOV **20** (1963) 114

BENAROYA, R. and W. J. RAMLER, Erratum on **10** (1961) 120 Deflection coil for an external accelerator beam **12** (1961) 367

BENDER, R. S., *see* BASSEL **18, 19** (1962) 303

BENEZECH, P., *see* GARRETA **17** (1962) 123

BENOIT-CATTIN, P. et D. BLANC, Le sondage précis du volume sensible des compteurs de Geiger-Müller à l'aide de filaments plastiques scintillants **17** (1962) 171

BENVENISTE, J., R. BOOTH and A. C. MITCHELL, Observations on the response of two p-n junction diodes to protons **12** (1961) 67

BERÉNYI, D. and GY. MÁTHÉ, Experiences in the use of scintillation detector in a β-spectrometer of toroid-sector type **13** (1961) 161

BERÉNYI, D., *see* MÁTHÉ **14** (1961) 209

BERGERE, R., E. DELEZENNE et A. VEYSSIERE, Etude de moniteurs de courant pour un accélérateur linéaire d'électrons **15** (1962) 327

BERGKVIST, K. E., *see* BÄCKSTRÖM **16** (1962) 199

BERGLUND, S. and S. SVENNERSTEDT, Some characteristics of a toroidal pinch with a reversed field **13** (1961) 201

BERGLUND, S., *see* SVENNERSTEDT **17** (1962) 231

BERGMANN, W. H., J. GRUBER, G. HAHN, G. HARIGEL, P. MEYER, K. MOUSTAFA and H. RÖHM, High field bubble chamber **20** (1963) 116

BERGSØE, P., P. G. HANSEN and C. F. JACOBSEN, Cyanoplatinate (II) salts as luminescent materials for scintillation counting **17** (1962) 325

BILANIUK, O. M., B. B. MARSH, A. K. HAMANN and J. C. HEURTLEY, An array of solid state counters with delay line pulse sorting . . . **14** (1961) 63

BINNIE, D. M., M. JANE, J. A. NEWTH, D. C. POTTER and J. WALTERS, Homogeneous scintillation chambers and the photography of Cherenkov light **20** (1963) 221

BIRD, R. P., *see* BARTLETT **17** (1962) 188

BISWAS, N. N., I. DERADO, K. GOTTSTEIN, V. P. KENNEY, D. LÜERS, G. LÜTJENS and N. SCHMITZ, Particle identification from track density for 4 GeV/c π^- p reactions in the 80 cm hydrogen bubble chamber **20** (1963) 135

BJERKE, ARTHUR E., QUENTIN A. KERNS and THOMAS A. NUNAMAKER, A solid-state chronotron for digitizing time delays **12** (1961) 25

BJERKE, A. E., Q. A. KERNS and T. A. NUNAMAKER, Pulse shaping and standardizing of photomultiplier signals for optimum timing information using tunnel diodes **15** (1962) 249

BJØRNHOLM, S. and C. M. LEDERER, Thin cation-exchange foils **15** (1962) 233

BLANC, D., *see* LABORIE **14** (1961) 237

BLANC, D., *see* BENOIT-CATTIN **17** (1962) 171

BLASER, J. P. and K. STEIMEL, Proposal for a constant frequency sector-focussed cyclotron for protons of 450 MeV **18, 19** (1962) 417

BLEULER, E., D. O. CALDWELL, B. ELSNER, D. HARTING, L. W. JONES, W. C. MIDDELKOOP, B. ZACHAROV, M. L. PERL and C. C. TING, The application of thin-plate spark chambers to high-energy π-p experiments **20** (1963) 208

BLIGNAUT, E., *see* WÄHLIN **15** (1962) 315

BLOK, J., *see* KRAMER **15** (1962) 289

BLOSSER, H. G. and M. M. GORDON, Performance estimates for injector cyclotrons **13** (1961) 101

BLOSSER, H. G., M. M. GORDON and T. I. ARNETTE, Resonant extraction from three-sector low-spiral cyclotrons **18, 19** (1962) 488

BLOSSER, H. G., *see* ARNETTE **18, 19** (1962) 343

BLOSSER, H. G., *see* GORDON **18, 19** (1962) 378

BÖCK, R., An IBM program for the kinematical analysis of complete track chamber events **20** (1963) 435

BOEHM, F., *see* SEPPI **16** (1962) 17

BOK, J. et J. P. NOEL, Diode a barrière de surface pour la détection de particules nucléaires **13** (1961) 206

BOLLINGER, L. M., G. E. THOMAS and R. J. GINTHER, Neutron detection with glass scintillators **17** (1962) 97

BOLOGNA, G., G. DIAMBRINI, R. TOSCHI, A. S. FIGUERA, U. PELLEGRINI, B. RISPOLI and A. SERRA, A pair spectrometer for energies up to 2 GeV **12** (1961) 263

BONACALZA, E. C. O., *see* THIEBERGER **14** (1961) 225

BONSIGNORI, C., D. MALOSTI and U. PELLEGRINI, Transistorized analog-to-digital converter for nuclear spectrometry **20** (1963) 362

BOOM, R. W., K. S. TOTH and A. ZUCKER, Radiation survey at the LRL 184-inch cyclotron **18, 19** (1962) 472

BOOM, R. W., L. D. ROBERTS and R. S. LIVINGSTON, Developments in superconductor solenoids **20** (1963) 495

BOOTH, R., *see* BENVENISTE **12** (1961) 67

BORGI, A. W. and O. LÖNSJÖ, Resonance widths for proton capture – A graphical method . . **17** (1962) 31

BORISOV, N. G., *see* BALANDIN **20** (1963) 110

BØRRESEN, S., B. GRIMELAND and S. MESSELT, Directional resolution and shielding properties of a long counter **16** (1962) 135

BOURGAREL, M. P., *see* CABRESPINE **18, 19** (1962) 81

BOWEN, P. H., G. C. COX, G. B. HUXTABLE, J. P. SCANLON, J. J. THRESHER and A. LANGSFORD, An investigation of the production of polarized neutron beams in the energy range 18 to 120 MeV **15** (1962) 31

BOWEN, P. H., G. C. COX, G. B. HUXTABLE, A. LANGSFORD, J. P. SCANLON, G. H. STAFFORD and J. J. THRESHER, A method of measuring the efficiencies for detecting high energy neutrons in organic scintillators **17** (1962) 117

BRAMBLETT, R. L., *see* HATCHER **14** (1961) 337

BRANDENBERG, W., *see* MCDANIELS **14** (1961) 263

BREARE, J. M., *see* HOPKINS **12** (1961) 323

BRET, GEORGES C. and ERWIN F. SHRADER, Fast tunnel diode circuits for NaI(Tl) detectors **13** (1961) 177

Briscoe, G. B., *see* Chackett, K. F. **14** (1961) 219
Bromley, D. A., *see* Anderson, Carl E. **13** (1961) 238
Brooker, R. J., *see* Collins **15** (1962) 193
Brooks Shera, E., *see* Shera
Brovetto, P., E. Chiavassa, G. Rosa and A. Pasquarelli, Absolute beta counting by an end-windowed G.M. counter **14** (1961) 302
Brown, D. P., *see* Androulakis **20** (1963) 100
Brown, H., *see* Baltay **20** (1963) 37
Brown, R. M., *see* Kreger **11** (1961) 290
Browne, C. P., *see* Erskine **13** (1961) 359
Bruce, G., *see* Almén **11** (1961) 257
Bruce, G., *see* Almén **11** (1961) 279
Brückmann, H., Ferroelectric modulators **18, 19** (1962) 622
Brugger, R. M., and J. E. Evans, MTR phased chopper velocity selector **12** (1961) 75
Brugger, R. M. and K. A. Strong, Phasing two choppers from a motor generator source **17** (1962) 129
Brugger, R. M. *see* Schmunk **12** (1961) 365
Bruinsma, P. and W. C. Parkinson, The University of Michigan 83-inch cyclotron, III. The r.f. system **18, 19** (1962) 102
Brunhart, G., C. D. Gall, C. Vittitoe, K. Schneider and V. P. Kenney, Scanning apparatus for bubble chamber data analysis **14** (1961) 38
Bruninx, E. and G. Rudstam, Electro-spraying: a method of making samples for β counting allowing accurate correction for self-scattering and self-absorption **13** (1961) 131
Brussel, M. K., J. S. Allen and L. E. Ernest, Beam extraction from the University of Illinois sector-focussed cyclotron . . . **18, 19** (1962) 520
Budagov, Yu. A., V. P. Dzhelepov, V. G. Ivanov, Yu. F. Lomakin, V. B. Flyagin and P. V. Shlyapnikov, Bubble chamber operation in the regime of auto-oscillations . . . **20** (1963) 128
Bulos, F., R. E. Lanou Jr., I. A. Pless and L. Rosenson, A portable 5 cm freon bubble chamber for the investigation of particle beam profiles **20** (1963) 125
Burch, P. R. J., *see* Iinuma **16** (1962) 247
Burge, E. J., Optimum design of experiments on exponential absorption with n observations **17** (1962) 248
Burgerjon, J. J., *see* Standing **18, 19** (1962) 111
Burgov, N. A., A. V. Davydov and G. R. Kartashov, An iron-free toroidal β-spectrometer with high transmission **12** (1961) 316
Burleigh, R. J., Costs and manpower for the Berkeley 88-inch cyclotron **18, 19** (1962) 634
Burleigh, R. J., *see* Haughian **18, 19** (1962) 559
Burleigh, R. J., *see* Glasgow **18, 19** (1962) 576
Burleson, G. R., T. F. Hoang, P. I. P. Kalmus, R. L. Kuskowski, L. Q. Niemela, A. Roberts, T. A. Romanowski, S. D. Warshaw and G. E. Yurka, Design and construction of a large magnetic-field spark chamber system **20** (1963) 180
Burleson, G. R., T. F. Hoang, P. I. P. Kalmus, R. L. Kuskowski, L. Q. Niemela, A. Roberts, T. A. Romanowski, S. D. Warshaw and G. E. Yurka, Initial operation and performance of a large magnetic-field spark chamber system **20** (1963) 185
Burleson, G. R., J. A. Deshong, T. F. Hoang, P. I. P. Kalmus, R. L. Kuskowski, L. Q. Niemela, A. Roberts, T. A. Romanowski, S. D. Warshaw and G. E. Yurka, Optical system and data processing for a large spark chamber system in magnetic field **20** (1963) 448
Burren, J. W. and W. A. Woodley, The use of a flying line for automatic scanning of bubble chamber photographs **20** (1963) 461
Butslov, M. M., M. N. Medvedev and M. V. Sheshunov, A method for measurement of charged particle elastic scattering at small angles **20** (1963) 242
Butslov, M. M., M. N. Medvedev, I. V. Chuvilo, and M. V. Sheshunov, The detection of Vavilov-Cherenkov radiation cone from high-energy single particles **20** (1963) 263
Bychkov, Yu. A., Vi Chun Von, A. M. Frolov, E. Katz, T. Pacuraru, V. A. Petukhov, O. M. Tsislyak and V. Ya. Volkov, A method and device for automatic scanning of nuclear emulsions **20** (1963) 442

Cabrespine, A. and M. P. Bourgarel, Shimming of a variable energy, sector-focused isochronous cyclotron by means of different permeability metals **18, 19** (1962) 81
Caglioti, C. and F. P. Ricci, Resolution and luminosity of crystal spectrometers for neutron diffraction **15** (1962) 155
Caldwell, D. O., *see* Bleuler **20** (1963) 208
Campbell, E. C. et P. F. Fettweis, Convoyeur pneumatique rapide pour l'irradiation d'échantillons dans un réacteur **14** (1961) 272
Candy, C. J., *see* Griffiths **15** (1962) 309
Carlson, H. L., *see* Parzen **18, 19** (1962) 338
Carpender, W. P., *see* Myhrer **18, 19** (1962) 627
Casper, K. J., *see* Shera **17** (1962) 174
Cassagnou, Y., *see* Ballini **14** (1961) 222
Cavalleri, C., E. Gatti and G. Redaelli, Light chamber or gas amplified scintillation chamber **20** (1963) 238
Cedarlund, R., A. Horn and M. Scolnick, Solid-state detector for monitoring 14-MeV neutron production **13** (1961) 305
Ceulemans, H., M. Neve de Mévergnies and F. Poortmans, Apparatus and methods used in a slow neutron resonance scattering experiment **17** (1962) 342
Chackett, G. A., *see* Chackett, K. F. **14** (1961) 215, 219
Chackett, K. F., G. A. Chackett and W. B. Hardy, Isotope production with the Nuffield 60-inch cyclotron (part 1) **14** (1961) 215
Chackett, K. F., G. A. Chackett, Bikram Singh and G. B. Briscoe, Isotope production with the Nuffield 60-inch cyclotron (part 2) **14** (1961) 219
Chaminade, R., M. Cros, A. Papineau et J. Saudinos, Système de détection des particules analysées par un aimant **11** (1961) 321
Chang, C. C., Magnetohydrodynamic method of injecting charged particles into a magnetic field **12** (1961) 345
Charpak, G., Location of the position of a spark in a spark chamber **15** (1962) 318

CHARPAK, G., L. DICK and L. FEUVRAIS, Location of the position of a particle trajectory in a scintillator **15** (1962) 323

CHARPAK, G., A triggered liquid track chamber with short resolving time **20** (1963) 482

CHESI, E., *see* AMATO **20** (1963) 341

CHIAVASSA, E., *see* BROVETTO **14** (1961) 302

CHRETIEN, M., D. R. FIRTH, R. K. YAMAMOTO, I. A. PLESS and L. ROSENSON, The use of an internal liquid hydrogen target with a methyliodide bubble chamber **20** (1963) 120

CHRIEN, R. E., *see* ZIMMERMAN **13** (1961) 1

CHU, E. L. and J. BALLAM, Calculations of a magnetic field momentum-defining slit . . . **20** (1963) 31

CHUVILO, I. V., *see* BALANDIN **20** (1963) 110

CHUVILO, I. V., *see* BELONOGOV **20** (1963) 114

CHUVILO, I. V., *see* BUTSLOV **20** (1963) 263

CHUVILO, I. V., *see* ALMAZOV **20** (1963) 437

CINDRO, N., A possible method for distinguishing charged particles with semiconductor detectors (Letter to the Editor) **13** (1961) 99

CITRON, A., L. HOFFMANN and C. PASSOW, Investigation of the nuclear cascade in shielding materials **14** (1961) 97

CITRON, A., C. DELORME, D. FRIES, J. HEINTZE, E. G. MICHAELIS, H. ØVERÅS and YU. SHTCHERBAKOV, An investigation of π^- contamination in μ^- beams **15** (1962) 121

CLARK, DAVID J., J. REGINALD RICHARDSON and BYRON T. WRIGHT, The criteria and techniques of magnetic field measurement used on the UCLA 50 MeV spiral ridge cyclotron **14** (1961) 321

CLARK, D. J., J. R. RICHARDSON and B. T. WRIGHT, Design and operation of the U.C.L.A. 50 MeV spiral-ridge cyclotron **18, 19** (1962) 1

CLASS, C. M., *see* CRAMER **16** (1962) 289

CLEGG, A. B., *see* ROWE **12** (1961) 353

COFFIN, C. T., L. J. CURTIS, D. I. MEYER and K. M. TERWILLIGER, Use of relative ionization for particle identification in multitrack spark chamber pictures **20** (1963) 156

COLARD, J. and J. GAL, Calibration of solid state p-n detectors with alpha and heavy high-energy particles **16** (1962) 195

COLE, A. J., *see* GRIFFITHS **15** (1962) 309

COLEMAN, C. F., A network analogue for a quadrupole lens system **14** (1961) 53

COLLINGE, B. and F. MARCIANO, Data logging equipment for nuclear physics experiments **16** (1962) 145

COLLINS, L. E. and R. J. BROOKER, Ion beam control in a duoplasmatron source **15** (1962) 193

COMBE, J. C., *see* HOFFMANN **15** (1962) 51

CONNOR, RICHARD J., Millimicrosecond pulsing **11** (1961) 122

CONRAD, B., Das Raumwinkelfilter, ein Blendensystem zur Messung geladener Teilchen aus Kernreaktionen **14** (1961) 41

COOK, C. F., A fast neutron time-of-flight spectrometer **15** (1962) 137

COOPER, W. A., *see* AMATO **20** (1963) 141

CORMACK, A. M., Dead-time losses with pulsed beams **15** (1962) 268

COSTA, S. and S. FERRONI, Measurement of (γ, Tn) reactions induced by means of a 100 MeV synchrotron **17** (1962) 145

COTTON, E., Durées de vie nucléaires **11** (1961) 39

COUPLAND, J. H. and K. J. HOWARD, Some model magnet measurements and their application to the design of a 70-inch spiral ridge cyclotron **18, 19** (1962) 148

COURANT, H., *see* AMATO **20** (1963) 47

COURANT, H., *see* AUBERT **20** (1963) 51

COURANT, H. W., *see* ANDROULAKIS **20** (1963) 100

COURTNEY, H. O., *see* ANDROULAKIS **20** (1963) 100

COX, A. J., D. E. KIDD, W. B. POWELL, B. L. REECE and P. J. WATERTON, Operation of a 40-inch radial ridge cyclotron **18, 19** (1962) 25

COX, GERALD C., *see* KERNS **12** (1961) 32

COX, G. C., *see* BOWEN **15** (1962) 31

COX, G. C., *see* BOWEN **17** (1962) 117

CRADDOCK, M. K., *see* STAFFORD **15** (1962) 146

CRAMER Jr., J. G., B. J. FARMER and C. M. CLASS, A scintillation spectrometer for high energy beta decays **16** (1962) 289

CRANBERG, L., R. A. FERNALD, F. S. HAHN and E. F. SHRADER, Production of high intensity ion pulses of nanosecond duration **12** (1961) 335

CRISPIN, A., *see* BARTON **16** (1962) 39

CRONIN, J. W., Present status of spark chambers **20** (1963) 143

CROS, M., *see* CHAMINADE **11** (1961) 321

CRYZINSKI, M. and M. SADOWSKI, The design and construction of magnetic fields for plasma research **16** (1962) 129

CULWICK, B. B. and S. J. GOLDSACK, Measuring machine for bubble chamber photographs . **13** (1961) 118

CULWICK, B. B., *see* ANDROULAKIS **20** (1963) 100

CURRIE, W. M., R. E. AZUMA and G. M. LEWIS, Measurements of instrumental time delay and resolution in a fast coincidence system . **13** (1961) 215

CURTIS, L. J., *see* COFFIN **20** (1963) 156

CVELBAR, F., A. HUDOKLIN, M.V. MIHAILOVIĆ and V. RAMŠAK, A telescope pair spectrometer for 5–20 MeV gamma-rays (Letter to the Editor) **15** (1962) 211

DALY, N. R., *see* WILSON **13** (1961) 269

DAMERELL, C. J. S., Electronic elimination of noise pulses in scintillation counting **15** (1962) 171

DANIEL, H. and P. JAHN, Coil arrangement for a β-ray spectrometer with curved exit slit (Letter to the Editor) **14** (1961) 353

DAVISON, M., *see* HOPKINS **12** (1961) 323

DAVISON, W. H. T., *see* PINNER **11** (1961) 227

DAVYDOV, A. V., *see* BURGOV **12** (1961) 316

DAWTON, RALPH H. V. M., A 200 microampere negative ion source, utilising a supersonic mercury jet **11** (1961) 326

DEARNALEY, G., and A. B. WHITEHEAD, The semi-conductor surface barrier for nuclear particle detection **12** (1961) 205

DEBUS, G. H., The determination of mass discrimination in a mass spectrometer . . . **16** (1962) 63

DE CARVALHO, H. G. and M. MUCHNIK, The loading of nuclear emulsions with bismuth **15** (1962) 101

DECKERS, HANS, Calculation of recoil spectra induced by fast neutron spectra in nuclear emulsions **13** (1961) 224
DE FOREST, R., A Hall probe assembly for the Berkeley 88-inch cyclotron magnet . . **18, 19** (1962) 584
DEIGHTON, M. O., Statistical errors arising from use of a gated pulse train for total live time measurement during pulse amplitude analysis **14** (1961) 48
DELEZENNE, E., *see* BERGERE **15** (1962) 327
DELORME, C., *see* CITRON **15** (1962) 121
DEMUYNCK, J. L. and O. J. SEGAERT, Stabilizing the sum coincidence spectrometer(Letter to the Editor). **16** (1962) 358
DENNIS, J. A., *see* BASSON **16** (1962) 321
DE RAAD, B., *see* GIESCH **20** (1963) 58
DE RAAD, B., *see* JONES **20** (1963) 477
DERADO, I., *see* BISWAS **20** (1963) 135
DE RIDDER, J., *see* KRAMER **15** (1962) 289
DERUYTTER, A. J., Evaluation of the absolute activity of alpha emitters and of the number of nuclei in thin alpha active layers **15** (1962) 164
DESHONG, J. A., *see* BURLESON **20** (1963) 448
DE VILLIERS, J. A. M., *see* MEYER **12** (1961) 180
DE VRIES, L. J. and F. UDO, A fast pulse-shape discriminator with applications as a spectrometer and sensitive monitor for 1–30 MeV neutrons **13** (1961) 153
DEXTER, W. L. and B. H. SMITH, Application of silicon diodes to cyclotron oscillator and magnet power supplies **18, 19** (1962) 613
DIAMBRINI, G., *see* BOLOGNA **12** (1961) 263
DI CAPUA, E., U. DORE, G. C. GIALANELLA, P. GUIDONI, I. LAAKSO and G. C. MONETI, A four liters liquid helium bubble chamber . . **15** (1962) 273
DICK, L., *see* CHARPAK **15** (1962) 323
DICKSON, J. M., *see* STAFFORD **15** (1962) 146
DIENER, J. J., *see* ANDROULAKIS **20** (1963) 100
DIERCKX, R., Threshold detectors for measuring fast neutron spectra (Letter to the Editor) . **15** (1962) 355
DIETZSCH, O., *see* LANDIM **15** (1962) 300
DODD, W. P., G. A. DORAN, J. B. KINSON, L. RIDDIFORD and B. TALLINI, Operation of a 9-inch bubble chamber with deuterium. . . **13** (1961) 127
DOKE, TADAYOSHI, *see* OGAWA **13** (1961) 169
DOLS, C. G., Measurement of beam phase of the Berkeley 88-inch cyclotron **18, 19** (1962) 595
DORAN, G. A. and M. JOBES, An automatic track following device **13** (1961) 124
DORAN G. A., *see* DODD **13** (1961) 127
DORE, U., *see* DI CAPUA **15** (1962) 273
DORST, J. H., Full-scale magnetic measurements on the Berkeley 88-inch cyclotron **18, 19** (1962) 135
DOWELL, J. D., *see* BARBIER **20** (1963) 66
DOWELL, J. D., P. DUTEIL, B. LEONTIC, A. LUNDBY, R. MEUNIER, J. P. STROOT and M. SZEPTYCKA, Effect of Cherenkov light polarization on total reflection counter **20** (1963) 271
DRESNER, L., Resonance self-shielding in the measurement of radiative capture cross sections **16** (1962) 176
DUBRAU, H. J., Untersuchung rauscharmer Röhren für Vorverstärker **15** (1962) 77
DUELLI, B., *see* WHITE **18, 19** (1962) 601
DUFF, M. J. B., The digiscat—a digitally controlled device for the measurement of multiple scattering in nuclear emulsions **15** (1962) 87
DUMITRESCU, R., *see* ȚINTĂ **12** (1961) 138
DUMOND, J. W. M., *see* SEPPI **16** (1962) 17
DUTEIL, P., *see* MEUNIER **17** (1962) 20
DUTEIL, P., *see* DOWELL **20** (1963) 271
DVORETSKI, A. S., V. A. KAZAKOV, I.V. KOLESOV, YU. ORAVETS, I. I. SKRIL, V. F. SIKOLENKO, L.V. SILVESTROV, N.S. FROLOV and M.S. KHVASTUNOV, System for the registration of particle entrance coordinates for an emulsion chamber **20** (1963) 277
DYACHKOV, E. I., *see* BELONOGOV **20** (1963) 114
DZHELEPOV, V. P., *see* BUDAGOV **20** (1963) 128

EBERLE, H., *see* STEIN **16** (1962) 240
ECKARDT, A., P. GÖRLICH, H. J. POHL and R. PRAGER, Dependence of time and amplitude properties of a new millimicrosecond-photomultiplier upon the operating parameters . **16** (1962) 44
EDWARDS, C., A transistor probe unit for nuclear counters (Letter to the Editor) . . **16** (1962) 354
EHLERS, K.W., Design and development of the ion source for the Berkeley 88-inch cyclotron **18, 19** (1962) 571
EHRMAN, J. R., *see* MARGULIES **12** (1961) 131
ELLIOTT, JACK H., Thick junction radiation detectors made by ion drift **12** (1961) 60
ELSNER, B., *see* BLEULER **20** (1963) 208
EL-WAHAB, M. A. and J. V. KANE, An analytic treatment for scintillation counter time resolution functions **15** (1962) 15
ELWYN, A. J., *see* MONAHAN **14** (1961) 348
ENDT, P. M., Resonance reactions **11** (1961) 3
ENGELHARDT, H., *see* HAUSER . **15** (1962) 129
ENGELHARDT, H., *see* HAUSER **16** (1962) 113
ERNEST, L. E., *see* BRUSSEL **18, 19** (1962) 520
ERSKINE, J. R. and C. P. BROWNE, Inexpensive target chamber with port movable through zero degrees under vacuum **13** (1961) 359
ETZION, M., *see* ROZEN **17** (1962) 332
EVANGELISTI, R., and G. SACERDOTI, Proposal for a storage ring for relativistic charged particles (Letter to the Editor) **12** (1961) 201
EVANGELISTI, R., G. PASOTTI and G. SACERDOTI, A pulsed magnet for high magnetic fields **16** (1962) 189
EVANS, FRANK, and FREDERICK A. KIRSTEN, An 1800-bit buffer store and readout system **12** (1961) 39
EVANS, J. E., *see* BRUGGER **12** (1961) 75

FABRI, G., E. GATTI and V. SVELTO, Spectrum expander for semiconductor detector spectroscopy **15** (1962) 237
FAISSNER, H., F. FERRERO, A. GHANI, F. KRIENEN, T. B. NOVEY and M. REINHARZ, Spark chamber efficiency for electron shower detection . **20** (1963) 161
FAISSNER, H., F. FERRERO, A. GHANI, E. HEER, F. KRIENEN, G. MURATORI, T. B. NOVEY, M. REINHARZ and R. A. SALMERON, The CERN neutrino spark chamber **20** (1963) 213
FAISSNER, H., F. FERRERO, A. GHANI and M. REINHARZ, Performance of large liquid scintillation counters **20** (1963) 289
FALK, K., *see* TOVE **12** (1961) 278

FALK, R., *see* PARKER **16** (1962) 355

FARAGO, P. S., Electron spin rotation and beam focusing **15** (1962) 222

FARMER, B. J., *see* CRAMER **16** (1962) 289

FARWELL, G. W., *see* MCDANIELS **14** (1961) 263

FELICI, C., *see* AGENO **16** (1962) 59

FELLOWS, E. C., *see* HUNT **16** (1962) 326

FER, F., Analytical theory of betatronic stability in sector-focused accelerators . . . **18, 19** (1962) 229

FERNALD, R. A., *see* CRANBERG **12** (1961) 335

FERRERO, F., *see* FAISSNER **20** (1963) 161

FERRERO, F., *see* FAISSNER **20** (1963) 213

FERRERO, F., *see* FAISSNER **20** (1963) 289

FERRONI, S., *see* COSTA **17** (1962) 145

FETTWEIS, P. F., *see* CAMPBELL **14** (1961) 272

FEUVRAIS, L., *see* CHARPAK **15** (1962) 323

FIELDS, T. H., High magnetic fields **20** (1963) 465

FIGUERA, A. S., *see* BOLOGNA **12** (1961) 263

FILTHUTH, H., *see* AMATO **20** (1963) 47

FILTHUTH, H., *see* AUBERT **20** (1963) 51

FINK, R. W., *see* KANTELE **15** (1962) 69

FINK, R. W., *see* KANTELE **13** (1961) 141

FINLAY, E. A., A proposal for linear regenerative extraction from the Birmingham radial-ridge cyclotron.. . . . . **18, 19** (1962) 479

FIRK, F. W. K., G. G. SLAUGHTER and R. J. GINTHER, An improved Li^6-loaded glass scintillator for neutron detection **13** (1961) 313

FIRTH, K., *see* ROUT **11** (1961) 347

FIRTH, D. R., *see* CHRETIEN **20** (1963) 120

FISCHER, J. and G. T. ZORN, Spark chamber labelling of tracks in a bubble chamber . . **20** (1963) 282

FITCH, V. L., Recent advances in counter techniques **20** (1963) 247

FLEISCHMANN, R., Sources of polarized ions (for protons and similar particles) **11** (1961) 112

FLYAGIN, V. B., *see* BUDAGOV **20** (1963) 128

FOWLER, W. B., *see* ANDROULAKIS **20** (1963) 100

FRANCK, J. V., P. V. C. HOUGH and B. W. POWELL, Realisation of HPD systems at three laboratories **20** (1963) 387

FRANKEN, A. J. J., *see* VERSTER **18, 19** (1962) 88

FRIEDMAN, A. M. and W. C. MOHR, Gas entrainment recoil target assembly **17** (1962) 78

FRIES, D., *see* CITRON **15** (1962) 121

FRIESE, THOMAS, Tragbarer Pulsgenerator für Prüfzwecke **14** (1961) 83

FROLOV, A. M., *see* BYCHKOV **20** (1963) 442

FROLOV, N. S., *see* DVORETSKI **20** (1963) 277

FRONTEAU, J., Calcul du spectre de pollution en μ des faisceaux de mésons π **16** (1962) 233

FUKETA, TOYOJIRO, Paired-chamber type pile oscillator **13** (1961) 35

FUKUI, S., S. HAYAKAWA, T. TSUKISHIMA and H. NUKUSHINA, Microwave discharge chamber **20** (1963) 236

FULTZ, S. C., *see* HATCHER **14** (1961) 337

GABRIEL, R. and A. M. SEGAR, Some transistor circuits for nuclear physics research(Erratum **15** (1962) 120). **12** (1961) 307

GAL, J., *see* COLARD **16** (1962) 195

GALEJS, A., *see* ROSE **14** (1961) 79

GALL, C. D., *see* BRUNHART **14** (1961) 38

GARDNER, M. E., *see* JUNGERMAN **15** (1962) 1

GARREN, A. A., Calculation of cyclotron trim-coil currents for field optimization by linear programming methods **18, 19** (1962) 309

GARREN, A. A., D. L. JUDD, L. SMITH and H. A. WILLAX, Electrostatic deflector calculations for the Berkeley 88-inch cyclotron . . . **18, 19** (1962) 525

GARREN, A. A., *see* YOUNG **18, 19** (1962) 323

GARREN, A. A., *see* WILLAX **18, 19** (1962) 347

GARRETA, D., P. BENEZECH et G. KNITTNER, Etude d'une source d'ions du type magnétron inverse pour cyclotron **17** (1962) 123

GATTI, E., *see* FABRI **15** (1962) 237

GATTI, E., *see* CAVALLERI **20** (1963) 238

GEEL, J., *see* VERSTER **18, 19** (1962) 88

GEIGER, J. S., *see* GRAHAM **15** (1962) 40

GELBERG, A., On the measurement of β–γ circular polarization correlations in forbidden β decay **17** (1962) 60

GELLER, K. N., System for energy control and absolute calibration of a 23 MeV betatron . **17** (1962) 161

GERMAIN, C. and R. TINGUELY, Electrostatic separator technique at CERN. **20** (1963) 21

GERSCH, H. U., Berechung der Polschuhoberflächen eines magnetischen Teilchenspektrometers **13** (1961) 297

GHANI, A., *see* FAISSNER **20** (1963) 161

GHANI, A., *see* FAISSNER **20** (1963) 213, 289

GHEORGHIU, D. and A. VALERIU, Signal-to-noise ratio of the twin-T nuclear magnetic resonance bridge **16** (1962) 313

GIALANELLA, G. C., *see* DI CAPUA **15** (1962) 273

GIBBONS, P. E., On the design of a silicon junction radiation detector made by ion drift . . **16** (1962) 284

GIBBONS, P. E., *see* ALLEN **14** (1961) 355

GIBBONS, P. E., *see* BATTY **17** (1962) 125

GIESCH, M., B. KUIPER, B. LANGESETH, S. VAN DER MEER, D. NEET, G. PLASS, G. PLUYM and B. DE RAAD, Status of magnetic horn and neutrino beam **20** (1963) 58

GIESE, R., *see* GILDEMEISTER **20** (1963) 233

GILBOY, W. B., *see* BATCHELOR **13** (1961) 70

GILDEMEISTER, O. and R. GIESE, Status report on a luminescent chamber **20** (1963) 233

GINTHER, R. J., *see* FIRK **13** (1961) 313

GINTHER, R. J., *see* BOLLINGER **17** (1962) 97

GLAGOLEV, V. V., *see* BELONOGOV **20** (1963) 114

GLASGOW, L. R. and R. J. BURLEIGH, Trim-coil construction for the Berkeley 88-inch cyclotron. **18, 19** (1962) 576

GOLDRING, G., Experiments using ultra-fast pulse techniques **11** (1961) 29

GOLDSACK, S. J., *see* CULWICK **13** (1961) 118

GOLUTVIN, I. A., *see* ALMAZOV **20** (1963) 437

GONSER, U. and K. LÜCKE, The use of Van de Graaff accelerators for high intensity neutron irradiation of metals **11** (1961) 139

GOODING, T. J. and H. G. PUGH, Erratum on **7** (1960) 189, The response of plastic scintillators to high-energy particles **11** (1961) 365

GOODZEIT, C. L., *see* ANDROULAKIS **20** (1963) 100

GOPALAN, K. and E. S. RAJAGOPAL, An instantaneous pulse frequency meter for random pulses **13** (1961) 253

GORDON, M. M. and W. S. HUDEC, Effects of field imperfections on radial stability in a three-sector cyclotron **18, 19** (1962) 243
GORDON, M. M., The electric gap-crossing resonance in a three-sector cyclotron . . . **18, 19** (1962) 268
GORDON, M. M., Fixed-point orbits in the vicinity of the $\nu_r = N/3, N/4$ and $N/2$ resonances **18, 19** (1962) 281
GORDON, M. M. and H. G. BLOSSER, Acceleration of particles into stable orbits in an isochronous three-sector cyclotron **18, 19** (1962) 378
GORDON, M. M., *see* BLOSSER **13** (1961) 101
GORDON, M. M., *see* ARNETTE **18, 19** (1962) 343
GORDON, M. M., *see* BLOSSER **18, 19** (1962) 488
GÖRLICH, P., *see* ECKARDT **16** (1962) 44
GORODETZKY, S., A. MUSER, J. ZEN et R. ARMBRUSTER, Sur un circuit rapide de mise en forme à seuil règlable utilisant des diodes tunnel **13** (1961) 282
GORODETZKY, S., A. MUSER, J. ZEN et R. ARMBRUSTER, Circuit de coincidence à diodes tunnel **14** (1961) 205
GORODETZKY, S., M. PORT et J. GRAFF, Préamplificateur linéaire à faible bruit pour détecteur à jonction **15** (1962) 183
GORODETZKY, S., A. MUSER, J. ZEN et R. ARMBRUSTER, Application des transformateurs d'impulsions en électronique rapide impulsionnelle **17** (1962) 353
GOTTSTEIN, K., *see* BISWAS **20** (1963) 135
GOULDING, FRED S., and WILLIAM L. HANSEN, Leakage current in semiconductor junction radiation detectors and its influence on energy-resolution characteristics. **12** (1961) 249
GOULDING, F. S., *see* ALEXANDER **13** (1961) 244
GOVE, H. E., Current experimentation with the tandem accelerator at the Chalk River laboratories **11** (1961) 63
GRAFF, J., *see* GORODETZKY **15** (1962) 183
GRAHAM, R. L., J. S. GEIGER, R. E. BELL and R. BARTON, A simple and accurate method for calibrating nanosecond time-to-pulse-height converters **15** (1962) 40
GRIFFITHS, R. J., K. M. KNIGHT, C. J. CANDY and A. J. COLE, Mass discrimination with plastic scintillators **15** (1962) 309
GRIFFITHS, R. J., *see* BATTY **17** (1962) 125
GRIMELAND, B., *see* BØRRESEN **16** (1962) 135
GROSJEAN, C. C., On the absolute detection efficiency of a cylindrical scintillation phosphor in the case of an extended plane γ-ray source **17** (1962) 289
GRUBER, J., *see* BERGMANN **20** (1963) 116
GRUHLE, W., *see* OSTERTAG **16** (1962) 301
GRUNDITZ, Y., *see* PARKER, W. C. **14** (1961) 71
GUIDONI, P., *see* DI CAPUA **15** (1962) 273
GUINN, V. P., *see* OTVOS **11** (1961) 187
GUPTA, S. L. and N. K. SAHA, Spark counter as a fast pulse generator **13** (1961) 258
GUPTA, S. L. and N. K. SAHA, Spark counter as a light pulser for phototube testing **15** (1962) 95
GYGI, E. and F. SCHNEIDER, Nanosecond avalanche transistor circuits **20** (1963) 352
HADDOCK, R. P., The role of the pion factory in elementary particle physics **18, 19** (1962) 387
HAGEDOORN, H. L. and N. F. VERSTER, Orbits in an AVF cyclotron **18, 19** (1962) 201
HAGEDOORN, H. L. and N. F. VERSTER, Analogue computer studies for an AVF cyclotron **18, 19** (1962) 336
HAGEDOORN, H. L., *see* VERSTER **18, 19** (1962) 88, 327
HAHN, B. and R. N. PEACOCK, Ultrasonic cavitation induced by neutrons **20** (1963) 133
HAHN, F. S., *see* CRANBERG **12** (1961) 335
HAHN, G., *see* BERGMANN **20** (1963) 116
HAMANN, A. K., *see* BILANIUK **14** (1961) 63
HAMBURGER, E. W., *see* LANDIM **15** (1962) 300
HAMILTON, J. H., *see* BAIRD **16** (1962) 275
HANSEN, N. E., *see* HATCHER **14** (1961) 337
HANSEN, P. G., *see* BERGSØE **17** (1962) 325
HANSEN, WILLIAM L., *see* GOULDING **12** (1961) 249
HANUSH, J., *see* ANDROULAKIS **20** (1963) 100
HARDER, D., *see* KRETSCHKO **16** (1962) 29
HARDY, R. W. D., *see* WILSON **13** (1961) 269
HARDY, W. B., *see* CHACKETT, K. F. **14** (1961) 215
HARIGEL, G., *see* BERGMANN **20** (1963) 116
HART, E. L., *see* ANDROULAKIS **20** (1963) 100
HARTING, D., *see* BLEULER **20** (1963) 208
HATCHER, C. R., R. L. BRAMBLETT, N. E. HANSEN and S. C. FULTZ, Width of photon line produced by positron annihilation at 15 MeV **14** (1961) 337
HAUGHIAN, J. M. and R. J. BURLEIGH, The ion-source mechanism for the Berkeley 88-inch cyclotron. **18, 19** (1962) 559
HAUSER, I., H. ENGELHARDT, U. KRECKER und K. LANIUS, Untersuchung der Verzerrungen in Nikfi-R-Emulsionen, Teil I, Einfluss des Fixierprozesses **15** (1962) 129
HAUSER, I., H. ENGELHARDT, U. KRECKER und K. LANIUS, Untersuchung der Verzerrungen in NIKFI-R-Emulsionen, Teil II. Einflusz der Trocknungsbedingungen **16** (1962) 11
HAWKINS, C. J. B., An approximate method of correcting for non-uniformity of magnetic field and energy loss of particles in a hydrogen bubble chamber **20** (1963) 45
HAYAKAWA, S., *see* FUKUI **20** (1963) 23
HAYASHI, I., The oscillator for the variable energy cyclotron **17** (1962) 26
HAYASHI, I., *see* SANADA **18, 19** (1962) 19
HAYNES, S. K., *see* BAIRD **16** (1962) 27
HAZONI, Y., A fast flip-flop circuit utilizing tunnel-diodes (Letter to the Editor) **13** (1961) 9
HEBBARD, D. F., Consecutive amplitude analyses for simultaneous pulses **16** (1962) 26
HEER, E., *see* FAISSNER **20** (1963) 21
HEINTZE, J., *see* CITRON **15** (1962) 12
HENDRIE, D. L., *see* MCDANIELS **14** (1961) 26
HENRIKSON, H., *see* SEPPI **16** (1962) 1
HEREWARD, H. G., Current development of high energy-proton synchrotrons **20** (1963)
HERZ, A. J., *see* QUERCIGH **20** (1963) 49
HEURTLEY, J. C., *see* BILANIUK **14** (1961) 6
HEYWOOD, D. R., *see* ALEXANDER **13** (1961) 8
HIBDON, C. T., Neutron background due to Ta backings for lithium targets **17** (1962) 17

Hickman, G. D., Aminiature fast fission counter **13** (1961) 190
Hill, C. R., A method of alpha particle spectroscopy for materials of very low specific activity **12** (1961) 299
Hiršl, P., *see* Andrejev **11** (1961) 297
Hoang, T. F., *see* Burleson **20** (1963) 180
Hoang, T. F., *see* Burleson **20** (1963) 185
Hoang, T. F., *see* Burleson **20** (1963) 448
Hoffmann, L., *see* Citron **14** (1961) 97
Hoffmann, L. and J. C. Combe, Use of a 200 kilogauss pulsed magnetic field for momentum measurements of high-energy particles in nuclear emulsions **15** (1962) 51
Hoffmann, L. and M. Morpurgo, A 200 kG pulsed magnet for emulsion experiments . . **20** (1963) 489
Hogg, B. G., *see* Sen **15** (1962) 209
Höhne, K. H., *see* Schneider **20** (1963) 152
Holley, W., *see* Beall **20** (1963) 205
Holland, R. E., The design of bunching magnets **12** (1961) 103
Holmberg, N. E., *see* Bäckström **16** (1962) 199
Holmryd, S., K. E. Larsson and K. Otnes, A neutron time-of-flight spectrometer with a semi-monochromatizing chopper **12** (1961) 355
Hopkins, H. W. K., M. Davison, L. Lyons, J. M. Breare, D. Roaf and D. F. Shaw, A 12 cm liquid deuterium bubble chamber . . **12** (1961) 323
Horn, A., *see* Cedarlund **13** (1961) 305
Hough, P. V. C., *see* Franck **20** (1963) 387
Houtsager, H., *see* Androulakis **20** (1963) 100
Hovenier, J. W., *see* Rethmeier **17** (1962) 273
Howard, F. T., Catalogue of isochronous cyclotrons **18, 19** (1962) 125
Howard, K. J., *see* Coupland **18, 19** (1962) 148
Howe, F. A., *see* Muggleton **12** (1961) 192
Howe, F. A., *see* Muggleton **13** (1961) 211
Hrynkiewicz, A. Z., On the differential method of g-factor measurements of short-lived excited nuclear states **16** (1962) 317
Huber, P., Z. Lewandowski, R. Plattner, C. Poppelbaum and R. Wagner, A time-of-flight spectrometer for fast neutrons **14** (1961) 131
Huber, Wolfgang, High energy radiation for research in biochemistry and microbiology **11** (1961) 210
Hudec, W. S., *see* Gordon **18, 19** (1962) 243
Hudoklin, A., *see* Cvelbar **15** (1962) 211
Hudson, E. D., R. S. Lord, M. B. Marshall, W. R. Smith and E. G. Richardson Jr., Achievement and measurement of the ORIC magnetic field **18, 19** (1962) 159
Hudson, E. D., *see* Jones **18, 19** (1962) 46
Hudson, E. D., *see* Livingston **18, 19** (1962) 438
Hulsizer, R. I., Development of a bubble chamber data analysis using several scanning-measuring-projectors on-line to a digital computer **20** (1963) 384
Hunt, S. E. and E. C. Fellows, A Van de Graaff beam deflecting system employing two 45° deflecting magnets **16** (1962) 326
Huus, Torben, Coulomb excitation **11** (1961) 19
Huxtable, G. B., *see* Bowen **15** (1962) 31
Huxtable, G. B., *see* Bowen **17** (1962) 117
Hyams, B. D., *see* Backenstoss **20** (1963) 294

Iinuma, T. A. and P. R. J. Burch, The γ-ray performance of a large volume plastic scintillator **16** (1962) 247
Infante, C. A constant input impedance plug-in for the Tektronix 581 oscilloscope (Letter to the Editor) **13** (1961) 264
Inkin, V. D., *see* Almazov **20** (1963) 437
Innes, J. G., *see* Bassel **18, 19** (1962) 303
Iredale, P., The non-proportional response of NaI(Tl) crystals to γ-rays **11** (1961) 336
Iredale, P., The effect of the non-proportional response of NaI(Tl) crystals to electrons upon the resolution for γ-rays. **11** (1961) 340
Isabelle, D. B. and P. H. Roy, Factors influencing the stability of a secondary electron monitor **20** (1963) 17
Iselin, F., 25 Mc/s scalers with flexible print-punch facilities **20** (1963) 330
Ivanov, V. G., *see* Budagov **20** (1963) 128

Jacobsen, C. F., *see* Bergsøe **17** (1962) 325
Jahn, P., *see* Daniel **14** (1961) 353
Janarek, F. J., *see* Mann **17** (1962) 71
Jane, M., *see* Binnie **20** (1963) 221
Jarczyk, L., H. Knoepfel, J. Lang, R. Müller and W. Wölfli, The nuclear reactor as a high intensity source for discrete gamma rays up to 11 MeV **13** (1961) 287
Jarczyk, L., H. Knoepfel, J. Lang, R. Müller and W. Wölfli, Photopeak efficiency and response function of various NaI(Tl) and CsI(Tl) crystals in the energy range up to 11 MeV **17** (1962) 310
Jennings, R. E. and R. E. Rand, Elimination of the dead space between channels in a Hutchinson-Scarrott pulse height analyser (Letter to the Editor) **13** (1961) 97
Jensen, J. E., *see* Androulakis **20** (1963) 100
Jentschke, W., Invited summary and closing speech **20** (1963) 507
Jeronymo, J. M. F., *see* Ballini **14** (1961) 222
Jobes, M., *see* Doran **13** (1961) 124
Johnson, D. A., *see* Arnette **18, 19** (1962) 343
Johnson, K., T. Klippert and W. J. Ramler, A non-intercepting accelerator beam position sensor **14** (1961) 125
Jones, L. W. and B. De Raad, Experimental utilisation of proton storage rings **20** (1963) 477
Jones, L. W., *see* Bleuler **20** (1963) 208
Jones, P. G., *see* Parker, J. B. **14** (1961) 1
Jones, R. J., E. D. Hudson, R. S. Livingston, R. S. Lord, M. B. Marshall, W. R. Smith, W. H. White Jr and R. E. Worsham, Unique features in the Oak Ridge isochronous cyclotron. **18, 19** (1962) 46
Jones, R. J., Remarks on tune-up of Analogue II **18, 19** (1962) 469
Jones, R. J., *see* Livingston **18, 19** (1962) 438
Jones, R. J., *see* White **18, 19** (1962) 601
Jones, T. H., The nonproportional response of a NaI(Tl) crystal to diffracted X-rays **15** (1962) 55
Jones, W. B., *see* Richardson **18, 19** (1962) 41
Jones, W. M., *see* Rout **11** (1961) 347

JONKER, C. C., *see* RETHMEIER **17** (1962) 273

JUDD, D. L., Electric dissociation of negative hydrogen ions in cyclotrons and synchrocyclotrons **18, 19** (1962) 70

JUDD, D. L., *see* GARREN **18, 19** (1962) 525

JULIAN, F. A. and A. C. RIVIERE, Suggested new method of injection into two tandem accelerators (Letter to the Editor) **15** (1962) 115

JUNGERMAN, J. A., M. E. GARDNER, C. G. PATTEN and N. F. PEEK, A precision solenoidal beta ray spectrometer **15** (1962) 1

JUNGERMAN, J. A., N. F. PEEK and C. G. PATTEN, A preliminary report on the 22-inch spiral ridge cyclotron at the University of California, Davis **18, 19** (1962) 120

KADIKOV, G. M., *see* ANDREJEV **11** (1961) 297

KAFTANOV, V. S. and V. A. LIUBIMOV, Spark chamber use in high-energy physics **20** (1963) 195

KAINE, D., *see* VINCENT **16** (1962) 163

KALMUS, P. I. P., *see* BARBIER **20** (1963) 66

KALMUS, P. I. P., *see* BURLESON **20** (1963) 180

KALMUS, P. I. P., *see* BURLESON **20** (1963) 185

KALMUS, P. I. P., *see* BURLESON **20** (1963) 448

KANE, J. V., *see* EL-WAHAB **15** (1962) 15

KANTELE, J. and R. W. FINK, Coincidence summing and non-linearity studies with a two-crystal scintillation gamma spectrometer . . **13** (1961) 141

KANTELE, J. and R. W. FINK, An integral-bias summing spectrometer for gamma-gamma coincidence and angular correlation studies . **15** (1962) 69

KANTELE, J., Gamma spectrometry with high-efficiency sum-peak coincidence spectrometer **17** (1962) 33

KARTASHOV, G. R., *see* BURGOV **12** (1961) 316

KARZHAVIN, YU. A., *see* ALMAZOV **20** (1963) 437

KASSNER, D. A., *see* ANDROULAKIS **20** (1963) 100

KATASE, AKIRA, *see* SONODA **12** (1961) 349

KATO, R. and T. KŌNO, A 200-kV Cockcroft-Walton type accelerator using selenium rectifiers **15** (1962) 197

KATZ, E., *see* BYCHKOV **20** (1963) 442

KATZ, L. and K. H. LOKAN, The generation of positrons in a thick target bombarded by fast electrons **11** (1961) 7

KATZ, L., Desirable linear electron accelerator characteristics for nuclear research **11** (1961) 14

KAZAKOV, V. A., *see* DVORETSKI **20** (1963) 277

KEEFE, D., L. T. KERTH, C. M. NOBLE, J. J. THRESHER and W. A. WENZEL, A magnetic spectrometer using spark chambers to obtain large solid angle and high resolution in π-π interaction studies. **20** (1963) 171

KEEFE, D., *see* BEALL **20** (1963) 205

KELLY, E. L., General description and operating characteristics of the Berkeley 88-inch cyclotron. **18, 19** (1962) 33

KENNEY, A. S., *see* YOUNG **18, 19** (1962) 323

KENNEY, R. W., A multichannel coincidence system **20** (1963) 342

KENNEY, V. P., *see* BRUNHART **14** (1961) 38

KENNEY, V. P., *see* BISWAS **20** (1963) 135

KENYON, I. R., A photometric device for track profile measurement in nuclear emulsion . . **16** (1962) 348

KERN, JEAN, Détecteur G.M. pour un spectromètre bêta **13** (1961) 50

KERNS, QUENTIN A., and GERALD C. COX, A triggered nanosecond light source **12** (1961) 32

KERNS, QUENTIN A., *see* BAKER **12** (1961) 1

KERNS, QUENTIN A., *see* BJERKE **12** (1961) 25

KERNS, QUENTIN A., *see* BJERKE **15** (1962) 249

KERTH, L. T., *see* KEEFE **20** (1963) 171

KERTH, L. T., *see* BEALL **20** (1963) 205

KHOE, T. K., A method to increase the duty factor of an isochronous cyclotron . . . **18, 19** (1962) 606

KHOLMOVSKIJ, J. A., *see* ARZUMANOV **12** (1961) 363

KHVASTUNOV, M. S., *see* DVORETSKI **20** (1963) 277

KIDD, D. E., *see* COX **18, 19** (1962) 25

KIKUCHI, S., *see* TSUKADA **17** (1962) 286

KING, W. G., *see* VINCENT **16** (1962) 163

KINSON, J. B., *see* DODD **13** (1961) 127

KIRSTEN, FREDERICK A., *see* BAKER **12** (1961) 1,11

KIRSTEN, FREDERICK A., *see* EVANS **12** (1961) 39

KIRSTEN, F. A., *see* MAGLIĆ **17** (1962) 49

KISTEMAKER, J., On ion sources with high efficiency and intensity **11** (1961) 179

KLIPPERT, T., *see* JOHNSON **14** (1961) 125

KNIGHT, K. M., *see* GRIFFITHS **15** (1962) 309

KNITTNER, G., *see* GARRETA **17** (1962) 123

KNOEPFEL, H., *see* JARCZYK **13** (1961) 287

KNOEPFEL, H., *see* JARCZYK **17** (1962) 310

KNOP, G., *see* BACKENSTOSS **20** (1963) 294

KOLESOV, I. V., *see* DVORETSKI **20** (1963) 277

KŌNO, T., *see* KATO **15** (1962) 197

KONOPASEK, F., *see* STANDING **18, 19** (1962) 111

KONRAD, M. and B. TURKO, Sorting of two coincident pulses according to their amplitudes **13** (1961) 29

KORENCHENKO, S. M., *see* ANDREJEV **11** (1961) 297

KORNELIS. Y., *see* AMATO **20** (1963) 141

KOZUBSKY, E. V., *see* BELONOGOV **20** (1963) 114

KRAMER, P., J. DE RIDDER and J. BLOK, A double proportional counter for absolute measurements on low energy photons and electrons **15** (1962) 289

KRAUSHAAR, J. J., *see* LIND **18, 19** (1962) 62

KRAYBILL, H. L., *see* ANDROULAKIS **20** (1963) 100

KRECKER, U., *see* HAUSER **15** (1962) 129

KRECKER, U., *see* HAUSER **16** (1962) 113

KREGER, W. E. and R. M. BROWN, Photofractions for sodium iodide crystals **11** (1961) 290

KRETSCHKO, J., D. HARDER und W. POHLIT, Absolutmessung der Teilchenflussdichte schneller Elektronen mit einem Faraday-Käfig **16** (1962) 29

KRIENEN, F. Digitized spark chambers . . . **16** (1962) 262

KRIENEN, F., A digitized spark chamber . . . **20** (1963) 168

KRIENEN, F., Data analysis of digitized spark chambers **20** (1963) 413

KRIENEN, F., *see* FAISSNER **20** (1963) 161

KRIENEN, F., *see* FAISSNER **20** (1963) 213

KUCHELA, K. S., Dual-count transfer system for dekatron (Letter to the Editor) **15** (1962) 117

KUCHELA, K. S., A fast transistor scaler for decimal counting (Letter to the Editor) . . **16** (1962) 287

KUIPER, B., *see* GIESCH **20** (1963) 58

KUKHAREVA, R. P., *see* BALANDIN **20** (1963) 110

KUSKOWSKI, R. L., *see* BURLESON **20** (1963) 180
KUSKOWSKI, R. L., *see* BURLESON **20** (1963) 185
KUSKOWSKI, R. L., *see* BURLESON **20** (1963) 448

LAAKSO, I., *see* DI CAPUA **15** (1962) 273
LABORIE, P. et D. BLANC, Conséquences pratiques de l'influence de la résistance de charge sur l'effet "couronne" dans les detecteurs à étincelles du type (fils-plan) (Letter to the Editor) **14** (1961) 237
LABZOV, B. A., *see* VLADIMIRSKY **14** (1961) 94
LACHINOV, V. M., *see* ANDREJEV **11** (1961) 297
LAMBERT, J. C., *see* AMATO **20** (1963) 341
LAMBERT, J. M., *see* BARDWICK **18, 19** (1962) 105
LAMDEN, R. J., A random pulse generator with provision for excursions **13** (1961) 247
LAMDEN, R. J., *see* VINCENT **14** (1961) 143
LAMDEN, R. J., *see* VINCENT **15** (1962) 360
LANDE, K., A. K. MANN and D. H. WHITE, A simple optical system for using standard magnets with spark chambers. **20** (1963) 193
LANDE, K., A. K. MANN and D. H. WHITE, Range measurement and particle identifition in a plate-loaded filamentary chamber . . . **20** (1963) 245
LANDIM, E., E. W. HAMBURGER and O. DIETZSCH, Efficiency of a long counter as a function of the direction and locus of incidence of the neutron. **15** (1962) 300
LANE, R. O. and W. F. MILLER, Energy-dependent multiple scattering of neutrons in thin plates **16** (1962) 1
LANG, J., *see* JARCZYK **13** (1961) 287
LANG, J., *see* JARCZYK **17** (1962) 310
LANGESETH, B., *see* GIESCH **20** (1963) 58
LANGSFORD, A., *see* BOWEN **15** (1962) 31
LANGSFORD, A., *see* BOWEN **17** (1962) 117
LANIUS, K., *see* HAUSER **15** (1962) 129
LANIUS, K., *see* HAUSER **16** (1962) 113
LANOU Jr., R. E., *see* BULOS **20** (1963) 125
LAPOSTOLLE, P. *see* BARBIER **18, 19** (1962) 425
LARSON, H. V., *see* LOOMIS **15** (1962) 243
LARSSON, E. INGEMAR, *see* MCCALL **13** (1961) 92
LARSSON, K. E., *see* HOLMRYD **12** (1961) 355
LAUTERJUNG, K. H., *see* OSTERTAG **16** (1962) 301
LAWSON, J. D., Studies for a 70-inch versatile cyclotron **18, 19** (1962) 114
LAZIEV, E. U., *see* ALIKHANYAN **20** (1963) 276
LEBEDEV, R. M., *see* BELONOGOV **20** (1963) 114
LEDERER, C. M., *see* BJØRNHOLM **15** (1962) 233
LEGGE, G. J. F., A stable 0.1% beam current integrator for the range 0.1 to 20 μA . . . **12** (1961) 195
LEITNER, J., G. MONETI and N. P. SAMIOS, Performance of the AGS separated beam with high-energy kaons. **20** (1963) 42
LEKSIN, G. A., *see* BAYUKOV **20** (1963) 198
LEONTIC, B., *see* MEUNIER **17** (1962) 1, 20
LEONTIC, B., *see* BARBIER **20** (1963) 66
LEONTIC, B., *see* DOWELL **20** (1963) 271
LEVINE, M. A., *see* RUBIN **17** (1962) 75
LEWANDOWSKI, Z., *see* HUBER **14** (1961) 131
LEWIS, G. M., *see* CURRIE **13** (1961) 215
LIKHATCHEV, M. F. and V. S. STAVINSKY, Angular gas Cherenkov counter **20** (1963) 261

LIND, D. A., J. J. KRAUSHAAR, R. SMYTHE and M. E. RICKEY, General design features of the Univeristy of Colorado 52-inch cyclotron **18, 19** (1962) 62
LIND, D. A., M. E. RICKEY and B. M. BARDIN, Magnetic field design and measurement for the Colorado 52-inch cyclotron **18, 19** (1962) 129
LINDENBAUM, S. J., W. LOVE, S. OZAKI, J. RUSSELL and L. C. L. YUAN, Focussing gaseous Cherenkov counters for particle identification at the Brookhaven AGS **20** (1963) 256
LINDENBAUM, S. J., A counter hodoscope system with digital data handler and on-line computer for elastic scattering and other experiments at Brookhaven AGS **20** (1963) 297
LINDQVIST, TORSTEN, *see* SCHNEIDER **13** (1961) 21
LINDQVIST, TORSTEN, *see* MATTHIAS **13** (1961) 356
LINDSAY, J. B., A fast linear gate **20** (1963) 345
LIU, F. F. and F. J. LOEFFLER, Transistorized linear gate for photomultiplier pulses . . . **12** (1961) 124
LIUBIMOV, V. A., *see* KAFTANOV **20** (1963) 195
LIVERIOS, D. T., *see* ANDROULAKIS **20** (1963) 100
LIVINGSTON, R. S., E. D. HUDSON, R. J. JONES, R. S. LORD, J. E. MANN, J. A. MARTIN, F. M. RUSSELL, N. F. ZIEGLER and A. ZUCKER, Concepts of an Mc^2 cyclotron **18, 19** (1962) 438
LIVINGSTON, R. S., *see* JONES **18, 19** (1962) 46
LIVINGSTON, R. S., *see* BOOM **20** (1963) 495
LOEFFLER, F. J., *see* LIU **12** (1961) 124
LOHMANN, W. and W. H. PERKINS, Stabilization of the counting rate by irradiation of the liquid scintillation counting solutions with UV-light **12** (1961) 329
LOKAN, K. H., *see* KATZ **11** (1961) 7
LOMAKIN, YU. F., *see* BUDAGOV **20** (1963) 128
LÖNSJÖ, O., *see* BORGI **17** (1962) 31
LOOMIS, J. S., I. T. MYERS, H. V. LARSON and D. E. WISEHART, Ozone hazards incurred by electron Van de Graaff operation **15** (1962) 243
LORD, R. S., *see* JONES **18, 19** (1962) 46
LORD, R. S., *see* HUDSON **18, 19** (1962) 159
LORD, R. S., *see* LIVINGSTON **18, 19** (1962) 438
LOUTTIT, R. I., *see* ANDROULAKIS **20** (1963) 100
LOVE, W., *see* LINDENBAUM **20** (1963) 256
LUCCIO, A., G. PAVANATI, F. RESMINI, C. SUCCI and G. TAGLIAFERRI, Relativistic cyclotron for the University of Milan **18, 19** (1962) 74
LUCK, GERHARD, Sekundärelektronenvervielfacher zur Abtastung von Kernspurplatten **11** (1961) 362
LÜCKE, K., *see* GONSER **11** (1961) 139
LÜERS, D., *see* BISWAS **20** (1963) 135
LUKENS, H. R., Jr., *see* OTVOS **11** (1961) 187
LUNDBY, A., *see* MEUNIER **17** (1962) 1, 20
LUNDBY, A., *see* BARBIER **20** (1963) 66
LUNDBY, A., *see* DOWELL **20** (1963) 271
LÜTJENS, G., *see* BISWAS **20** (1963) 135
LYONS, L., *see* HOPKINS **12** (1961) 323

MACK, DICK A., *see* BAKER **12** (1961) 1, 11
MACKENZIE, K. R., S. PLUNKETT and E. L. PETERSEN, Characteristics of the UCLA cyclotron radiofrequency system . . . **18, 19** (1962) 177

MACLEOD, G. R., The development of data analysis systems for bubble chambers, for spark chambers and for counter experiments **20** (1963) 367
MAEDER, D., Scanning patterns for automatic track and event recognition **20** (1963) 407
MAEDER, D., *see* ANDERS **20** (1963) 414
MAGDA, T., *see* ȚINTĂ **12** (1961) 138
MAGLIĆ, B. C. and F. A. KIRSTEN, Acoustic spark chamber **17** (1962) 49
MAGLIĆ, B. C., The sonic spark chamber and some of its experimental aspects **20** (1963) 165
MALAMUD, E., *see* WEILL **15** (1962) 23
MALAMUD, E., *see* AMATO **20** (1963) 47
MALOSTI, D., *see* BONSIGNORI **20** (1963) 362
MALY, M., *see* BELONOGOV **20** (1963) 114
MANN, H. M. and F. J. JANAREK, Effect of forward-voltage ion-drift on the operation of lithium-drifted silicon junction detectors . . **17** (1962) 71
MANN, A. K., *see* LANDE **20** (1963) 193
MANN, A. K., *see* LANDE **20** (1963) 245
MANN, J. E., *see* LIVINGSTON **18, 19** (1962) 438
MANN, J. E., *see* MARTIN **18, 19** (1962) 461
MANNING, G. and A. C. SHERWOOD, A beam profile indicator for use with high energy particle accelerators **14** (1961) 182
MARCIANO, F., *see* COLLINGE **16** (1962) 145
MARGULIES, S. and J. R. EHRMAN, Transmission and line broadening of resonance radiation incident on a resonance absorber . **12** (1961) 131
MARLOW, K. W., A system for stabilizing the gain of a scintillation spectrometer **15** (1962) 188
MARSH, B. B., *see* BILANIUK **14** (1961) 63
MARSHALL, J. HOWARD, *see* BARNA **12** (1961) 43
MARSHALL, M. B., *see* JONES **18, 19** (1962) 46
MARSHALL, M. B., *see* HUDSON **18, 19** (1962) 159
MARSHALL, N. H., *see* SIMPSON **16** (1962) 97
MARTALOGU, N., *see* ȚINTĂ **12** (1961) 138
MARTIN, J. A. and J. E. MANN, Beam characteristics in cyclotron Analogue II . . . **18, 19** (1962) 461
MARTIN, J. A., *see* LIVINGSTON **18, 19** (1962) 438
MARTIN, G. R., The estimation of the resolving time of a counting apparatus (Letter to the Editor) **13** (1961) 263
MASEK, G. E., *see* PLATNER **20** (1963) 505
MÁTHÉ, GY, D. BERÉNYI and T. SCHARBERT, Experiences on the application of the sum-coincidence method **14** (1961) 209
MÁTHÉ, GY. and R. VOSZKA, A new method for mounting scintillation crystals with an improved energy resolving power **16** (1962) 335
MÁTHÉ, GY., *see* BERÉNYI **13** (1961) 161
MATTHIAS, ECKART and TORSTEN LINDQVIST, Precision measurements of nuclear *g*-factors by the time-to-pulse-height converter method **13** (1961) 356
MAYNARD, J. M., *see* PARZEN **18, 19** (1962) 338
MCCALL, RICHARD C. and E. INGEMAR LARSSON, A low priced automatic printout system for the Hutchinson Scarrott analyser (Letter to the Editor) **13** (1961) 92
MCCORMACK, J. D., *see* MCCORMICK . **13** (1961) 147
MCCORMICK, B. H. and R. NARASIMHAN, Design of a pattern recognition computer with application to the automatic scanning of bubble chamber negatives **20** (1963) 401
MCCORMICK, R. D. and J. D. MCCORMACK, Hydrogen and carbon target preparation for a positive ion accelerator **13** (1961) 147
MCDANIELS, D. K., W. BRANDENBERG, G. W. FARWELL and D. L. HENDRIE, Magnetic analysis of 42-MeV cyclotron alpha particles . . **14** (1961) 263
MCGERVEY, JOHN D., A pulse resolver using tunnel diodes (Letter to the Editor) **14** (1961) 351
MCKENZIE, J., *see* ANDERSON, D. W. **13** (1961) 231
MEDVEDEV, M. N., *see* BUTSLOV **20** (1963) 242
MEDVEDEV, M. N., *see* BUTSLOV **20** (1963) 263
MEILING, W., J. SCHINTLMEISTER und F. STARY, Ein Differential-koinzidenzkreis für den Nanosekunden-Bereich **11** (1961) 355
MELKONIAN, EDWARD, Application of surface barrier solid state ionization chambers to measurements on fission **11** (1961) 307
MELNIKOVA, N. N., *see* BELONOGOV **20** (1963) 114
MESSELT, S., *see* BØRRESEN **16** (1962) 135
MESSIER, JEAN et JEAN VALIN, Influence de la présence d'une jonction PP^+ sur le comportement d'un détecteur de particles nucléaires à jonction NP **14** (1961) 307
METSHCHEROV, R. A., *see* ARZUMANOV **12** (1961) 363
METHERINGHAM, A. J. and T. R. WILLITTS, A balanced ionisation chamber for accurate beam location **15** (1962) 297
MEUNIER, R., *see* BARBIER **20** (1963) 66
MEUNIER, R., *see* DOWELL **20** (1963) 271
MEUNIER, R., J. P. STROOT, B. LEONTIC et A. LUNDBY, DISC: Compteur Cherenkov à selection de vitesse **17** (1962) 1
MEUNIER, R., J. P. STROOT, B. LEONTIC, A. LUNDBY et P. DUTEIL, Compteurs DISC à radiateur liquide **17** (1962) 20
MEYER, A., *see* ZERBY **12** (1961) 119
MEYER, D. I., *see* COFFIN **20** (1963) 156
MEYER, M. A., J. A. M. DE VILLIERS and A. J. VAN DER WALT, Hodoscope system for experiments on the scattering of cosmic ray mumesons, Part III—Theory of the hodoscope **12** (1961) 180
MEYER, P., *see* BERGMANN **20** (1963) 116
MICHAELIS, E. G., *see* CITRON **15** (1962) 121
MIDDELKOOP, W. C., *see* BLEULER **20** (1963) 208
MIHAILOVIĆ, M. V., *see* CVELBAR **15** (1962) 211
MIHUL, A., *see* BALEA **20** (1963) 140
MILLER, G. L., S. WAGNER and L. C. L. YUAN, Investigations on lithium-drift solid-state detectors for high-energy particle detection . **20** (1963) 30
MILLER, W. F., *see* LANE **16** (1962) 1
MILMAN, B., A three-magnet extraction system for the 1 GeV Orsay linear accelerator . . . **20** (1963) 1
MIRK, K. F., Mechanical features of the r.f.-system for the Berkeley 88-inch cyclotron **18, 19** (1962) 562
MIRONOV, E. S., *see* ARZUMANOV **12** (1961) 361
MITCHELL, A. C., *see* BENVENISTE **12** (1961) 6
MITTNER, P., *see* BEHR **20** (1963) 446
MLADJENOVIĆ, MILORAD, Some new proposals for design of Compton spectroscopes **14** (1961) 3
MO, S. C., *see* ANDROULAKIS **20** (1963) 100
MOHR, W. C., *see* FRIEDMAN **17** (1962) 78
MOISEENKO, V. A., *see* BALANDIN **20** (1963) 110
MOISEEV, A. M., *see* BELONOGOV **20** (1963) 114

Monahan, J. E. and A. J. Elwyn, Geometrical considerations in the measurement of the ratio L/R in the scattering of polarized nucleons **14** (1961) 348

Monahan, J. E., S. Raboy and C. C. Trail, Measurements of lifetimes of radioactive sources **17** (1962) 225

Monaro, S., *see* Vingiani **14** (1961) 138

Moneti, G. and V. Montelatici, A liquid deuterium target refrigerated by liquid hydrogen (Letter to the Editor) **15** (1962) 207

Moneti, G., *see* Leitner **20** (1963) 42

Moneti, G. C., *see* Di Capua **15** (1962) 273

Montelatici, V., *see* Moneti **15** (1962) 207

Moore, D., Neutron, electron and X-ray beams used for radiation research from a Van de Graaff generator **11** (1961) 238

Moorhead, W. G., *see* White **20** (1963) 393

Moran, H. S., *see* Zerby **14** (1961) 115

Moret, H., Construction of a sample changer based on the Geneva wheel principle (Letter to the Editor) **15** (1962) 357

Morikawa, M., Weak lens formulas for accelerating tubes **15** (1962) 282

Morozov, A. G., *see* Andrejev **11** (1961) 297

Morpurgo, M., *see* Barbier **18, 19** (1962) 425

Morpurgo, M., *see* Hoffmann **20** (1963) 489

Morris, T. W., *see* Androulakis **20** (1963) 100

Mosig, R., *see* Ašner **20** (1963) 35

Moustafa, K., *see* Bergmann **20** (1963) 116

Muchnik, M., *see* De Carvalho **15** (1962) 101

Muggleton, A. H. F., and F. A. Howe, The preparation of thin ^{18}O targets **12** (1961) 192

Muggleton, A. H. F. and F. A. Howe, The preparation of thin self supporting boron films **13** (1961) 211

Müller, R., *see* Jarczyk **13** (1961) 287

Müller, R., *see* Jarczyk **17** (1962) 310

Müller, W. and W. Wolff, Considerations on the design of a spiral ridge cyclotron for 450-MeV protons **18, 19** (1962) 447

Munro, R., *see* Wilson **13** (1961) 269

Muratori, G., *see* Faissner **20** (1963) 213

Murphy, F. V., *see* O'Neill **20** (1963) 176

Murray, J. J., Mass separation by means of microwave linear acceleration in secondary beams **20** (1963) 26

Murray, J. J., An electronic analogue system for kinematical analysis of interaction vertices **20** (1963) 452

Murray, R. B., *see* Zerby **12** (1961) 115

Muser, A., *see* Gorodetzky **13** (1961) 282

Muser, A., *see* Gorodetzky **14** (1961) 205

Muser, A., *see* Gorodetzky **17** (1962) 353

Myers, I. T., *see* Loomis **15** (1962) 243

Myhrer, T. H. and W. P. Carpender, Building, site, utilities and services for the Berkeley 88-inch cyclotron **18, 19** (1962) 627

Nall, J. L., *see* Baird **16** (1962) 275

Naqvi, S. I. H., Operating characteristics of a sum-coincidence spectrometer **16** (1962) 305

Narasimhan, R., *see* McCormick **20** (1963) 401

Naumann, L., *see* Amato **20** (1963) 141

Neet, D., *see* Giesch **20** (1963) 58

Nekrasov, K. G., *see* Andrejev **11** (1961) 297

Nemenov, L. M., *see* Arzumanov **12** (1961) 363

Netzband, D., Die Lichtüberführung bei einem dE/dx-Zähler mit Photovervielfacher. . . . **17** (1962) 81

Neustroev, V. D., *see* Almazov **20** (1963) 437

Nève de Mévergnies, M., *see* Ceulemans **17** (1962) 342

Newth, J. A., *see* Binnie **20** (1963) 221

Niemela, L. Q., *see* Burleson **20** (1963) 180

Niemela, L. Q., *see* Burleson **20** (1963) 185

Niemela, L. Q., *see* Burleson **20** (1963) 448

Nikitin, S. Ya., The hydrogen bubble chamber of the Institute of theoretical and experimental physics, Moscow **20** (1963) 95

Nilsson, Gösta, Improved fission counting method for uranium isotope analysis . . . **13** (1961) 183

Nilsson, S., Loading device for irradiated samples at a bent crystal gamma-ray spectrometer **16** (1962) 89

Noack, C. und W. Roether, Ein Kabelverstärker für Impulse grosser Amplitude . . . **13** (1961) 261

Noble, C. M., *see* Keefe **20** (1963) 171

Noel, J. P., *see* Bok **13** (1961) 206

Nordhagen, Rolf, Simple scheme for using the selective storage of a multichannel pulse height analyser in coincidence counting . . **12** (1961) 151

Nordhagen, Rolf, Proton resonances suitable to shape calibrate a scintillation γ-ray spectrometer **12** (1961) 291

Novey, T. B., *see* Faissner **20** (1963) 161

Novey, T. B., *see* Faissner **20** (1963) 213

Nukushina, H., *see* Fukui **20** (1963) 236

Nunamaker, Thomas A., *see* Baker **12** (1961) 1

Nunamaker, Thomas A., *see* Bjerke **12** (1961) 25

Nunamaker, T. A., *see* Bjerke **15** (1962) 249

Nygard, J. C. and R. F. Post, Recent advances in high power microwave electron accelerators for physics research **11** (1961) 126

Ogawa, Iwao, Tadayoshi Doke and Masahiro Tsukuda, The double-grid ionization chamber **13** (1961) 169

Ogawa, I. and N. Abe, Electron cyclotron resonances in a radiofrequency ion source . . . **16** (1962) 227

Olsen, W. C., *see* Zimmerman **13** (1961) 1

O'Neill, G. K., F. V. Murphy, K. Wright and D. Yount, Magnetic-field spark chambers . . **20** (1963) 176

Onno, P. and R. E. Bell, Dependence of line widths of scintillation counters on integrating time constant **17** (1962) 149

Ophel, T. R., *see* Bashkin **15** (1962) 112

Oppel, R., *see* Stein **16** (1962) 240

Oravets, Yu, *see* Dvoretski **20** (1963) 277

Orr, D., Electron model studies of particle motions in spiral ridge magnetic fields . . . **17** (1962) 151

Orr, J. R., *see* Platner **20** (1963) 505

Osborne, C., *see* White **20** (1963) 393

Ostertag, H., K. H. Lauterjung und W. Gruhle, Auswertegerät zu einem Vielkanaldiskriminator **16** (1962) 301

Ostrander, H. W., *see* Yntema **16** (1962) 69

Otnes, K., *see* Holmryd **12** (1961) 355

Otvos, John W., V. P. Guinn, H. R. Lukéns Jr. and C. D. Wagner, Photoactivation and photoneutron activation analysis **11** (1961) 187

Øverås, H., *see* Citron **15** (1962) 121

Owens, H. C., Three computer programs for calculating cyclotron orbits **18, 19** (1962) 295
Ozaki, S., *see* Lindenbaum **20** (1963) 256

Pacuraru, T., *see* Bychkov **20** (1963) 442
Palevsky, H., *see* Zimmerman **13** (1961) 1
Palmai, M., *see* Adler **13** (1961) 197
Palmer, R. B., *see* Androulakis **20** (1963) 100
Pancholi, S. C. and N. K. Saha, Design and use of a self-monitoring coincidence arrangement of nanosecond resolution **14** (1961) 189
Pandarese, F. and F. Villa, Tunnel diode fast discriminator circuit **20** (1963) 319
Papineau, A., *see* Chaminade **11** (1961) 321
Parekh, C. H., On the operational characteristics of a gas flow counter **15** (1962) 213
Parker, J. B., J. H. Towle, D. Sams and P. G. Jones, Multiple scatter corrections by Monte Carlo **14** (1961) 1
Parker, J. B., *see* Batchelor **13** (1961) 70
Parker, S., *see* Rey **20** (1963) 173
Parker, W. C. and Y. Grunditz, Rapid carrier free separation technique **14** (1961) 71
Parker, W., C.-J. Andreen and H. Slätis, A simple electron gun for use in electron scattering studies **15** (1962) 200
Parker, W. and R. Falk, Molecular plating: A method for the electrolytic formation of thin inorganic films (Letter to the Editor) . . . **16** (1962) 355
Parker, W., *see* Andreen **15** (1962) 205
Parkinson, W. C. and R. S. Tickle, The University of Michigan 83-inch cyclotron, I, General description **18, 19** (1962) 93
Parkinson, W. C., *see* Bruinsma **18, 19** (1962) 102
Parkinson, W. C., *see* Bardwick **18, 19** (1962) 105
Parzen, G., J. C. Anderson, M. R. Storm, J. M. Maynard and H. L. Carlson, A computer program to investigate orbit stability in circular accelerators **18, 19** (1962) 338
Pasotti, G., *see* Evangelisti **16** (1962) 189
Pasquarelli, A., *see* Brovetto **14** (1961) 302
Passow, C., *see* Citron **14** (1961) 97
Patten, C. G., *see* Jungerman **15** (1962) 1
Patten, C. G., *see* Jungerman **18, 19** (1962) 120
Patwardhan, P. K., On two pulse mode and improvement in dead time of Dekatron display analysers **14** (1961) 200
Paulin, A., Betriebszustände des Mikrotrons mit geteiltem Magnet (racetrack microtron) **12** (1961) 155
Paulin, A., Das dimensionieren des Beschleunigungsspaltes beim Mikrotron **15** (1962) 306
Pavanati, G., *see* Luccio **18, 19** (1962) 74
Peacock, R. N., *see* Hahn **20** (1963) 133
Peek, N. F., *see* Jungerman **15** (1962) 1
Peek, N. F., *see* Jungerman **18, 19** (1962) 120
Pellegrini, U., *see* Bologna **12** (1961) 263
Pellegrini, U., *see* Bonsignori **20** (1963) 362
Perez-Mendez, V., *see* Adler **13** (1961) 197
Perkins, W. H., *see* Lohmann **12** (1961) 329
Perl, M. L., *see* Bleuler **20** (1963) 208
Peter, G., A. A. Tyapkin, A. F. Pisarev and Tzou Chu-Lyang, The appearance of inclined discharge channels along an ionizing particle track **20** (1963) 201
Peters, C. W. and A. L. Snyder, Optimum location of BF_3 counters in a neutron moderator **13** (1961) 309
Peters, R., Metal gaskets for the Berkeley 88-inch cyclotron **18, 19** (1962) 549
Peters, R., Mechanical features of the electrostatic deflector for the Berkeley 88-inch cyclotron . . . . . **18, 19** (1962)552
Petersen, E. L., *see* Mackenzie **18, 19** (1962) 177
Petrie, D. P. R., *see* Rout **11** (1961) 347
Petrucci, G., *see* Amato **20** (1963) 47
Petrucci, G., *see* Barbier **20** (1963) 66
Petukhov, V. A., *see* Bychkov **20** (1963) 442
Peuckert, K., Untersuchungen über das kurzzeitige Abklingen einiger organischer Szintillatoren bei Anregung mit γ-Strahlung, Protonen oder α-Teilchen **17** (1962) 257
Pine, J., *see* Yount **15** (1962) 45
Pinner, S. H. and W. H. T. Davison, The development of radiation process applications **11** (1961) 227
Pion, P. A., *see* Androulakis **20** (1963) 100
Pisarev, A. F., *see* Peter **20** (1963) 201
Pizer, H. I., A fast pulse encoder **20** (1963) 358
Plano, R. J. and D. H. Tycko, A method for the spatial reconstruction of bubble chamber tracks **20** (1963) 458
Plass, G., *see* Giesch **20** (1963) 58
Platner, E. D., J. R. Orr, G. E. Masek and R. W. Williams, Experience with foil spark chambers in high-pulsed magnetic fields . . **20** (1963) 505
Plattner, R., *see* Huber **14** (1961) 131
Pless, I. A., *see* Chretien **20** (1963) 120
Pless, I. A., *see* Bulos **20** (1963) 125
Plunkett, S., *see* Mackenzie **18, 19** (1962) 177
Pluym, G., *see* Giesch **20** (1963) 58
Pohl, H. J., *see* Eckardt **16** (1962) 44
Pohlit, W., *see* Kretschko **16** (1962) 29
Polly, P., Ein transistorisierter Einkanal-Impulshöhenanalysator **16** (1962) 214
Polly, P., Ein transistorisierter Dreifach-Impulsgeber **16** (1962) 221
Pomelas, E., *see* Ballini **11** (1961) 331
Poortmans, F., *see* Ceulemans **17** (1962) 342
Popov, M. I., *see* Andrejev **11** (1961) 297
Poppelbaum, C., *see* Huber **14** (1961) 13
Port, M., *see* Gorodetzky **15** (1962) 185
Pose, R., *see* Andrejev **11** (1961) 297
Post, R. F., *see* Nygard **11** (1961) 124
Potoceanu, C., *see* Balea **20** (1963) 141
Potter, D. C., *see* Binnie **20** (1963) 22
Poultney, S. K., *see* Reynolds **20** (1963) 267
Powell, B. W., *see* Franck **20** (1963) 387
Powell, W. B., *see* Cox **18, 19** (1962) 2
Požar, F., 1 Mc/s scaler using gas-filled cold cathode counting tube EZ 10 . . . . . **16** (1962) 311
Prager, R., *see* Eckardt **16** (1962) 44
Prodi, V., *see* Alberigi-Quaranta **14** (1961) 1
Pugh, H. G., *see* Gooding **11** (1961) 361

Quercigh, E. and A. J. Herz, Production of high magnetic fields by the use of an unconstrained mercury coil **20** (1963) 491

Raboy, S., *see* Monahan 17 (1962) 225

Rabson, Thomas A., Utilization of tunnel diodes in fast trigger circuits 12 (1961) 127

Rabson, T. A., A small, linear, wide range nuclear radiation detector 16 (1962) 37

Rajagopal, E. S., *see* Gopalan 13 (1961) 253

Ramaswamy, M. K., *see* Vanderleeden 12 (1961) 362

Ramler, W. J., *see* Benaroya 12 (1961) 367

Ramler, W. J., *see* Johnson 14 (1961) 125

Ramšak, V., *see* Cvelbar 15 (1962) 211

Rand, R. E., The analysis of continuous spectra using the matrix method 17 (1962) 65

Rand, R. E., *see* Jennings 13 (1961) 97

Rau, R. R., *see* Androulakis 20 (1963) 100

Rautenbach, W. L., Experimental verification of the space charge law ($I = k(e/m)^{\frac{1}{2}}V^{\frac{3}{2}}$) for ion beams from a plasma ion source 12 (1961) 169

Rechen, J. B., *see* Ruby 15 (1962) 74

Redaelli, G., *see* Cavalleri 20 (1963) 238

Reece, B. L., *see* Cox 18, 19 (1962) 25

Reinharz, M., *see* Faissner 20 (1963) 161

Reinharz, M., *see* Faissner 20 (1963) 213

Reinharz, M., *see* Faissner 20 (1963) 289

Reiser, Martin, Ioneneinfang und Anfangsbahnen im Isochron-Zyklotron Karlsruhe. . 13 (1961) 55

Reiser, M., Central orbit program for a variable energy multi-particle cyclotron 18, 19 (1962) 370

Resmini, F., *see* Luccio 18, 19 (1962) 74

Rethmeier, J., C. C. Jonker, M Rodenburg, J. W. Hovenier, and D. R. Van der Meulen, Differential cross sections for D-T neutrons by time of flight methods 17 (1962) 273

Rey, C. and S. Parker, Modular spark chambers 20 (1963) 173

Reynolds, G. T. and J. R. Waters, Photoelectron detection efficiency of high-gain image intensifier systems used with scintillation chambers 20 (1963) 226

Reynolds, G. T., J. R. Waters and S. K. Poultney, Cherenkov frings from single particles observed with a high-gain image-intensifier system 20 (1963) 267

Reynolds, G. T., *see* Waters 17 (1962) 44

Ribin, S. N., *see* Arzumanov 12 (1961) 363

Ricci, F. P., *see* Caglioti 15 (1962) 155

Richardson, J. R., H. A. Willax and W. B. Jones, Note on a spill beam from the 88-inch cyclotron. 18, 19 (1962) 41

Richardson, J. R. Preliminary considerations on meson cyclotrons 18, 19 (1962) 457

Richardson, J. Reginald, *see* Clark 14 (1961) 321

Richardson, J. R., *see* Clark 18, 19 (1962) 1

Richardson, Jr. E. G., *see* Hudson 18, 19 (1962) 159

Richez, J., A trace following device 20 (1963) 419

Rickey, M. E. and R. Smythe, The acceleration and extraction of negative hydrogen ions in the C.U. cyclotron. 18, 19 (1962) 66

Rickey, M. E., *see* Lind 18, 19 (1962) 129, 62

Riddiford, L., *see* Dodd 13 (1961) 127

Ridley, B. W., A large aperture detector for slow positive ions 14 (1961) 231

Righini, B., *see* Alberigi-Quaranta 14 (1961) 13, 173

Righini, B., *see* Alberigi-Quaranta 20 (1963) 355

Rimondi, O., *see* Alberigi-Quaranta 14 (1961) 13

Rispoli, B., *see* Bologna 12 (1961) 263

Ristinen, R. A., *see* Bartlett 17 (1962) 188

Riviere, A. C., *see* Julian 15 (1962) 115

Roaf, D., *see* Hopkins 12 (1961) 323

Roberts, A., *see* Burleson 20 (1963) 180

Roberts, A., *see* Burleson 20 (1963) 185

Roberts, A., *see* Burleson 20 (1963) 448

Roberts, L. D., *see* Boom 20 (1963) 495

Rodenburg, M., *see* Rethmeier 17 (1962) 273

Roether, W., *see* Noack 13 (1961) 261

Röhm, H., *see* Bergmann 20 (1963) 116

Romanowski, T. A., *see* Burleson 20 (1963) 180

Romanowski, T. A., *see* Burleson 20 (1963) 185

Romanowski, T. A., *see* Burleson 20 (1963) 448

Röpke, H. und H. Spehl, Herstellung eines neutralen Wasserstoffatomstrahls 17 (1962) 169

Rosa, G., *see* Brovetto 14 (1961) 302

Rose, P. H., The three-stage tandem accelerator 11 (1961) 49

Rose, P. H., A. B. Wittkower, R. P. Bastide and A. Galejs, Quantitative measurements of ion beam properties 14 (1961) 79

Rosenfeld, A. H., Current performance of the Alvarez-group data processing system . . . 20 (1963) 422

Rosenson, L., *see* Chretien 20 (1963) 120

Rosenson, L., *see* Bulos 20 (1963) 125

Rosselet, Ph, A 150 kgauss transverse field pulsed magnet 20 (1963) 487

Rout, V. M., W. M. Jones, K. Firth, D. P. R. Petrie and A. C. L. Barnard, A magnetic spectrograph for angular distribution measurements 11 (1961) 347

Rowe, D. J., G. L. Salmon and A. B. Clegg, Finite geometry corrections for angular correlation measurements 12 (1961) 353

Roy, P. H., *see* Isabelle 20 (1963) 17

Rozen (Rozenstein), S., Pile up rejection circuits 11 (1961) 316

Rozen, S. and M. Etzion, A transistorized fast coincidence circuit for use with slow scintillators 17 (1962) 332

Rozen, S. and E. Altman, A simple transistorized fast a.c. discriminator 17 (1962) 337

Rubin, A. G., and M. A. Levine, Betatron potential wells 17 (1962) 75

Ruby, L. and J. B. Rechen, A fast-neutron activation detector for 14-MeV pulsed neutron sources 15 (1962) 74

Rudstam, G., *see* Bruninx 13 (1961) 131

Russell, F. M., *see* Livingston 18, 19 (1962) 438

Russell, J., *see* Lindenbaum 20 (1963) 256

Rutan, E., *see* Androulakis 20 (1963) 100

Ryde, H., *see* Thieberger 14 (1961) 225

Rijks, H. J., Stabilizing a scintillation spectrometer by means of a low frequency modulated light source. 14 (1961) 76

Sacerdoti, G. and L. Tau, A double-focussing, alternate-gradient, magnetic spectrometer for momenta up to 800 MeV/c 16 (1962) 139

Sacerdoti, G., *see* Evangelisti 12 (1961) 201

Sacerdoti, G., *see* Evangelisti 16 (1962) 189

SACERDOTI, G. C., Recent advances in new high magnetic field techniques at National Laboratories of Frascati, Italy 20 (1963) 503
SACHS, M., *see* ANDERSON, CARL E. 13 (1961) 238
SADOWSKI, M., *see* CRYZINSKI 16 (1962) 129
SAHA, N. K., *see* GUPTA 13 (1961) 258
SAHA, N. K., *see* SINGH 13 (1961) 321
SAHA, N. K., *see* PANCHOLI 14 (1961) 189
SAHA, N. K., *see* GUPTA 15 (1962) 95
SAITOV, I. S., *see* BELONOGOV 20 (1963) 114
SALMERON, R. A., *see* FAISSNER 20 (1963) 213
SALMON, G. L., *see* ROWE 12 (1961) 353
SALMON, L., Analysis of gamma-ray scintillation spectra by the method of least squares . . . 14 (1961) 193
SALOMAA, M. K., A 300 watt 100 Mc/s R.F. oscillator (Letter to the Editor) 15 (1962) 113
SALOMAA, M. K., *see* BEGHIAN 17 (1962) 181
SALTER, D. C., *see* STAFFORD 15 (1962) 146
SAMIOS, N. P., *see* LEITNER 20 (1963) 42
SAMS, D., *see* PARKER, J. B. 14 (1961) 1
SANADA, J., I. HAYASHI and A. SUZUKI, Comparison between variable-energy synchrocyclotron and sector-focused cyclotron . . 18, 19 (1962) 194
SANDS, MATTHEW, *see* BARNA 12 (1961) 43
SANDWEISS, J., Experimental techniques at ultra-high energies 20 (1963) 1
SANDWEISS, J., *see* BALTAY 20 (1963) 37
SANFORD, J., *see* BALTAY 20 (1963) 37
SAPSFORD, G., *see* VINCENT 14 (1961) 160
SASAKI, HIROSHI, On the field errors at low magnetic field of the A. C. magnets for a synchrotron 14 (1961) 252
SAUDINOS, J., *see* CHAMINADE 11 (1961) 321
SCANLON, J. P., *see* BOWEN 15 (1962) 31
SCANLON, J. P., *see* BOWEN 17 (1962) 117
SCARL, D. B., *see* WATERS 17 (1962) 44
SCHARBERT, T., *see* MÀTHÉ 14 (1961) 209
SCHINTLMEISTER, J., *see* MEILING 11 (1961) 355
SCHLENK, B., Multichannel amplitude analyzer of the "grey wedge" type 15 (1962) 231
SCHMITZ, N., *see* BISWAS 20 (1963) 135
SCHMUNK, R. E. and R. M. BRUGGER, The scattering surface method of measuring dispersion relations with a phased chopper velocity selector (Letter to the Editor) 12 (1961) 365
SCHNEIDER, F. and K. H. HÖHNE, Influence of gas admixtures on the sensitive time of spark chambers 20 (1963) 152
SCHNEIDER, F., *see* GYGI 20 (1963) 352
SCHNEIDER, K., *see* BRUNHART 14 (1961) 38
SCHNEIDER, WERNER and TORSTEN LINDQVIST, Automatic analysis of beta-ray spectra . . . 13 (1961) 21
SCHOCH, A., A discussion of colliding beam techniques 11 (1961) 40
SCHWARZ, S. and H. O. ZETTERSTRÖM, A problem in the treatment of data from nuclear counters: The determination of parameters from grouped samples 16 (1962) 337
SCOLNICK, M., *see* CEDARLUND 13 (1961) 305
SEGAERT, O. J., *see* DEMUYNCK 16 (1962) 358
SEGAR, A., *see* AMATO 20 (1963) 47
SEGAR, A., *see* AUBERT 20 (1963) 51
SEGAR, A. M., *see* GABRIEL 12 (1961) 307
SEGAR, A. M., *see* GABRIEL 15 (1962) 120
SEKI, MASAO, *see* SONODA 12 (1961) 349
SEN, S. K. and B. G. HOGG, Total internal conversion coefficients of low energy cascade gamma-rays by a sum coincidence technique (Letter to the Editor) 15 (1962) 209
SEPPI, E. J., H. HENRIKSON, F. BOEHM and J. W. DUMOND, A germanium bent-crystal monochromator for nuclear spectroscopy . . . 16 (1962) 17
SEPTIER, A. et J. VAN ACKER, Les lentilles quadrupolaires électrostatiques 13 (1961) 335
SERRA, A., *see* BOLOGNA 12 (1961) 263
SEVIER, KENNETH D., Stopping of Cf^{252} fission fragments in emulsion 14 (1961) 318
SHAMU, R. E., High-pressure gas scintillation counters 14 (1961) 297
SHAW, D. F., *see* HOPKINS 12 (1961) 323
SHEEN, E. M., Alpha monitor with solid-state detector 17 (1962) 140
SHERA, E. BROOKS, Further comments on accidental coincidences in fast-slow coincidence systems (Letter to the Editor) 12 (1961) 198
SHERA, E. BROOKS and K. J. CASPER, Angular correlation measurements with multichannel analyzers 17 (1962) 174
SHERWOOD, A. C., *see* MANNING 14 (1961) 182
SHERWOOD, J. E., A source of polarized ions . 15 (1962) 103
SHESHUNOV, M. V., *see* BUTSLOV 20 (1963) 242
SHESHUNOV, M. V., *see* BUTSLOV 20 (1963) 263
SHESTOPALOVA, S. A., Two-fold focussing $2 \times \pi \sqrt{2}$-angle beta-spectrometer 17 (1962) 94
SHISHOV, YU. A., *see* BELONOGOV 20 (1963) 114
SHLYAPNIKOV, P. V., *see* BUDAGOV 20 (1963) 128
SHRADER, E. F., *see* CRANBERG 12 (1961) 331
SHRADER, ERWIN F., *see* BRET 13 (1961) 177
SHTCHERBAKOV, YU., *see* CITRON 15 (1962) 12
SHUTT, R. P., Recent advances in the bubble chamber technique 20 (1963) 7
SHUTT, R. P., *see* ANDROULAKIS 20 (1963) 10
SIKOLENKO, V. F., *see* DVORETSKI 20 (1963) 27
SILVESTROV, L. V., *see* DVORETSKI 20 (1963) 27
SIMPSON, O. D., N. H. MARSHALL, and R. C. YOUNG, Effect of sample nonuniformity on cross section measurements 16 (1962) 9
SINGH., BIKRAM, *see* CHACKETT, K. F. 14 (1961) 21
SINGH, GURBAX and N. K. SAHA, A new design of a multiple-wire spark counter and some studies with the single wire-plate spark counter 13 (1961) 32
SINGH, P. P., *see* ZIMMERMAN 13 (1961)
SKRIL, I. L., *see* DVORETSKI 20 (1963) 27
SLÄTIS, H., Intensity determination of photographically recorded conversion lines . . . 16 (1962)
SLÄTIS, H., *see* PARKER 15 (1962) 20
SLÄTIS, H., *see* ANDREEN 15 (1962) 20
SLAUGHTER, G. G., *see* FIRK 13 (1961) 31
SMIRNOV, V. V., *see* ANDREJEV 11 (1961) 29
SMITH, B. H., Radiofrequency system of the Berkeley 88-inch cyclotron 18, 19 (1962) 11
SMITH, B. H., *see* DEXTER 18, 19 (1962) 6
SMITH, L., Comparison of accelerator types 18 19 (1962) 3
SMITH, L., *see* GARREN 18 19 (1962) 5
SMITH, W. R., *see* JONES 18 19 (1962)
SMITH, W. R., *see* HUDSON 18 19 (1962) 1

Smythe, R., University of Colorado 52-inch cyclotron dee design 18, 19 (1962) 582
Smythe, R., *see* Lind 18, 19 (1962) 62
Smythe, R., *see* Rickey 18, 19 (1962) 66
Snyatkov, V. I., *see* Balandin 20 (1963) 110
Snyder, A. L., *see* Peters 13 (1961) 309
Solinas, L., *see* Barbier 20 (1963) 66
Soloviev, M. I., *see* Balandin 20 (1963) 110
Sondericker, J. H., *see* Androulakis 20 (1963) 100
Sonoda, Masateru, Akira Katase, Masao Seki and Tsunekazu Akiyoshi, Magnetic field of alternately charged symmetric multipole magnet 12 (1961) 349
Spehl, H., *see* Röpke 17 (1962) 169
Sprokel, G. J., An automatic sample changer 13 (1961) 330
Stafford, G. H., J. M. Dickson, D. C. Salter and M. K. Craddock, A source for the production of polarized protons 15 (1962) 146
Stafford, G. H., *see* Bowen 17 (1962) 117
Stahlke, J. L., An electron spin resonance magnetometer for time-varying fields . . . 17 (1962) 157
Standing, K. G., J. J. Burgerjon and F. Konopasek, The University of Manitoba cyclotron 18, 19 (1962) 111
Stary, F., *see* Meiling 11 (1961) 355
Stavinsky, V. S., *see* Likhatchev 20 (1963) 261
Steimel, K., *see* Blaser 18, 19 (1962) 417
Stein, R., H. Eberle et R. Oppel, Essais de discrimination de particules chargées par la méthode ionographique 16 (1962) 240
Stepanov, V. D., *see* Almazov 20 (1963) 437
Stierlin, U., *see* Backenstoss 20 (1963) 294
Storm, M. R., *see* Parzen 18, 19 (1962) 338
Strong, K. A., *see* Brugger 17 (1962) 129
Stroot, J. P., *see* Meunier 17 (1962) 1, 20
Stroot, J. P., *see* Barbier 20 (1963) 66
Stroot, J. P., *see* Dowell 20 (1963) 271
Succi, C., *see* Luccio 18, 19 (1962) 74
Suchkov, D. A., *see* Bayukov 20 (1963) 198
Sujkowski, Ziemowid, Adaptation of a $\pi\sqrt{2}$ beta-ray spectrometer for coincidence experiments 12 (1961) 187
Sundström, T., Note on moment analysis of delayed coincidence experiments 16 (1962) 153
Suzuki, A., *see* Sanada 18, 19 (1962) 194
Svelto, V., *see* Fabri 15 (1962) 237
Svennerstedt, S., S. Berglund and S. Westerlund, Magnetic field and temperature variations in a toroidal pinch discharge . . 17 (1962) 231
Svennerstedt, S., *see* Berglund 13 (1961) 201
Sweetman, D. R., The achievement of very high pumping speeds in the ultra-high vacuum region 13 (1961) 317
Szeptycka, M., *see* Barbier 20 (1963) 66
Szeptycka, M., *see* Dowell 20 (1963) 271

Tagliaferri, G., *see* Luccio 18, 19 (1962) 74
Taketani, Hiroshi, Coincidence analyzer for use with pulsed accelerators 14 (1961) 311
Tallini, B., *see* Dodd 13 (1961) 127
Tanaka, Eiichi, A low background beta-ray scintillation spectrometer using a coincidence method with a Geiger counter 13 (1961) 43
Tau, L., *see* Sacerdoti 16 (1962) 139
Telenkov, V. V., *see* Bayukov 20 (1963) 198
Terwilliger, K. M., *see* Coffin 20 (1963) 156
Teutsch, H., Ein Nomogramm für Neutronen-Flugzeitspektrometrie 15 (1962) 203
Thieberger, P., E. C. O. Bonacalza and H. Ryde, Experimental study of the influence of non-proportional response of NaI(Tl) scintillation crystals upon the energy resolution for gamma rays 14 (1961) 225
Thomas, G. E., A boron-loaded liquid scintillation neutron detector, using a single photomultiplier 17 (1962) 137
Thomas, G. E., *see* Bollinger 17 (1962) 97
Thorndike, A. M., *see* Androulakis 20 (1963) 100
Thresher, J. J., *see* Bowen 15 (1962) 31
Thresher, J. J., *see* Bowen 17 (1962) 117
Thresher, J. J., *see* Keefe 20 (1963) 171
Thresher, J. J., *see* Beall 20 (1963) 205
Tickle, R. S., The University of Michigan 83-inch cyclotron, II, The magnetic field . . . 18, 19 (1962) 98
Tickle, R. S., *see* Parkinson 18, 19 (1962) 93
Ting, C. C., *see* Bleuler 20 (1963) 208
Tinguely, R., *see* Germain 20 (1963) 21
Ţintă, F., N. Martalogu, R. Dumitrescu and T. Magda, On the natural pulsing of cyclotron external beams in the nanosecond range 12 (1961) 138
Tolstoj, N. S., *see* Andrejev 11 (1961) 297
Toner, W. T., *see* Amato 20 (1963) 47
Toschi, R., *see* Bologna 12 (1961) 263
Toth, K. S., *see* Boom 18, 19 (1962) 472
Tove, P. A. and K. Falk, Transit time of charge carriers in the semiconductor ionization chamber 12 (1961) 278
Towle, J. H., *see* Batchelor 13 (1961) 70
Towle, J. H., *see* Parker, ... 14 (1961) 1
Trageser, D. A., Future accelerators: intense sources for processing 11 (1961) 248
Trail, C. C., *see* Monahan 17 (1962) 225
Tsislyak, O. M., *see* Bychkov 20 (1963) 442
Tsukada, K., and S. Kikuchi, Directional anisotropy in the characteristics of the organic-crystal scintillators 17 (1962) 286
Tsukishima, T., *see* Fukui 20 (1963) 236
Tsukuda, Masahiro, Pulse analyzing system for a gridded ionization chamber 14 (1961) 241
Tsukuda, Masahiro, *see* Ogawa 13 (1961) 169
Tumanyan, W. A., *see* Alikhanyan 20 (1963) 276
Turbin, Yu. A., *see* Belonogov 20 (1963) 114
Turko, B., *see* Konrad 13 (1961) 29
Tuttle, W. A., *see* Androulakis 20 (1963) 100
Tyapkin, A. A., *see* Peter 20 (1963) 201
Tycko, D. H., *see* Plano 20 (1963) 458
Tzou Chu-Lyang, *see* Peter 20 (1963) 201

Udo, F., *see* De Vries 13 (1961) 153
Ustenko, E. P., *see* Belonogov 20 (1963) 114

Valeriu, A., *see* Gheorghiu 16 (1962) 313
Valin, Jean, *see* Messier 14 (1961) 307
Van Acker, J., *see* Septier 13 (1961) 335
Van Bladel, J., The effect of curvature on the fields in a circular accelerator 14 (1961) 101

VAN BLADEL, J., Some remarks on force-free coils 16 (1962) 101
VANDERLEEDEN, J. C. and M. K. RAMASWAMY, Total conversion coefficients with a sum-coincidence NaI spectrometer (Letter to the Editor) 12 (1961) 362
VAN DER MEER, S., *see* GIESCH 20 (1963) 58
VAN DER MEULEN, D. R., *see* RETHMEIER 17 (1962) 273
VAN DER WALT, A. J., *see* MEYER 12 (1961) 180
VAN DE VIJVER, R. E., *see* VANHUYSE 15 (1962) 59, 63
VAN DINGENEN, W., Systematic study of some cold-neutron sources 16 (1962) 116
VANHUYSE, V. J. and R. E. VAN DE VIJVER, Efficiency of secondary emission monitors for electron beams 15 (1962) 63
VANHUYSE, V. J., E. D. WATTECAMPS, R. E. VAN DE VIJVER and G. J. VANPRAET, Secondary emission beam monitors for 0.5 to 3.5 MeV electrons 15 (1962) 59
VANPRAET, G. J., *see* VANHUYSE 15 (1962) 59
VAN ZURK, R., Circuit discriminateur d'amplitude utilisant des diodes "Tunnel" 16 (1962) 157
VARGA, L., Pulse shape discrimination 14 (1961) 24
VERSTER, N. F., H. L. HAGEDOORN, J. ZWANENBURG, A. J. J. FRANKEN and J. GEEL, Some design features of the Philips AVF prototype 18, 19 (1962) 88
VERSTER, N. F. and H. L. HAGEDOORN, Computer programs for an AVF cyclotron 18, 19 (1962) 327
VERSTER, N. F., *see* HAGEDOORN 18, 19 (1962) 201, 336
VERWEIJ, H., A 100 Mc/s discriminator and scaler 20 (1963) 323
VEYSSIERE, A., *see* BERGERE 15 (1962) 327
VI CHUN VON, *see* BYCHKOV 20 (1963) 442
VILLA, F., *see* PANDARESE 20 (1963) 319
VINAVER, R., *see* BELONOGOV 20 (1963) 114
VINCENT, C. H., D. KAINE and W. G. KING, Precise automatic control by proton resonance of a continuously variable magnetic field 16 (1962) 163
VINCENT, C. H. and R. J. LAMDEN, An experimental equipment for the rapid recognition of excursions in reactors at low flux levels (Erratum 15 (1962) 360) 14 (1961) 143
VINCENT, C. H. and G. SAPSFORD, A precision current integrator 14 (1961) 160
VINGIANI, G. B. and S. MONARO, Experimental determination of summing distributions in scintillation detectors 14 (1961) 138
VINOGRADOV, V. N., *see* BELONOGOV 20 (1963) 114
VITTITOE, C., *see* BRUNHART 14 (1961) 38
VLADIMIRSKY, K. V. and B. A. LABZOV, Single sample spin generator spectrometer 14 (1961) 94
VOGT-NILSEN, N., *see* BARBIER 18, 19 (1962) 425
VOLKOV, V. YA., *see* BYCHKOV 20 (1963) 442
VOSZKA, R., *see* MÁTHÉ 16 (1962) 335

WAABEN, S., The magnet power servo system for the Princeton-Pennsylvania proton synchrotron 17 (1962) 87
WAGNER, C. D., *see* OTVOS 11 (1961) 187
WAGNER, R., *see* HUBER 14 (1961) 131
WAGNER, S., *see* MILLER 20 (1963) 303
WÅHLIN, L., A particle identification system . . 14 (1961) 281
WÅHLIN, L. and E. BLIGNAUT, An electrical delay circuit 15 (1962) 315
WALLACE, R., Shielding and activation considerations for a meson factory 18, 19 (1962) 405
WALTERS, J., *see* BINNIE 20 (1963) 221
WANG, C. L., *see* BEALL 20 (1963) 205
WANG, C. P., Electronic instrumentation for research in elementary particle physics and cosmic rays at Hong Kong 20 (1963) 306
WANG YUNG-CHANG, *see* BALANDIN 20 (1963) 110
WARNER, L. B., Thin films of separated isotopes by cathodic sputtering 14 (1961) 315
WARSHAW, S. D., *see* BURLESON 20 (1963) 180
WARSHAW, S. D., *see* BURLESON 20 (1963) 185
WARSAAW, S. D., *see* BURLESON 20 (1963) 448
WATERS, J. R., G. T. REYNOLDS, D. B. SCARL and R. A. ZDANIS, A scintillation chamber—image intensifier beam profile detector . . . 17 (1962) 44
WATERS, J. R., *see* REYNOLDS 20 (1963) 226
WATERS, J. R., *see* REYNOLDS 20 (1963) 267
WATERTON, P. J., *see* COX 18, 19 (1962) 25
WATSON, P. G., Development of the magnetic cone for the center of the Berkeley 88-inch cyclotron 18, 19 (1962) 362
WATTECAMPS, E. D., *see* VANHUYSE 15 (1962) 59
WEBRE, N., *see* WHITE 20 (1963) 393
WEBSTER, M., *see* BALTAY 20 (1963) 37
WEILL, R. and E. MALAMUD, Problems posed by the study of bubble chamber photographs with the chamber operating in an electron beam 15 (1962) 23
WENZEL, W. A., *see* KEEFE 20 (1963) 171
WENZEL, W. A., *see* BEALL 20 (1963) 205
WESTCOTT, C. H., *see* ZIMMERMAN 13 (1961) 1
WESTERLUND, S., *see* SVENNERSTEDT 17 (1962) 231
WHITE, D. H., *see* LANDE 20 (1963) 193
WHITE, D. H., *see* LANDE 20 (1963) 245
WHITE, H. S., T. ARONSTEIN, C. OSBORNE, N. WEBRE and W. G. MOORHEAD, Preliminary operating experience with Hough-Powell device programs 20 (1963) 393
WHITE Jr., W. H., Magnet regulators for ORIC 18, 19 (1962) 170
WHITE Jr., W. H., B. DUELLI and R. J. JONES, Beam-phase measurement studies . . . 18, 19 (1962) 601
WHITE, Jr., W. H., *see* JONES 18, 19 (1962) 40
WHITEHEAD, A. B., *see* DEARNALEY 12 (1961) 202
WIEGAND, C., Electronic counter techniques at Berkeley 20 (1963) 313
WIEGAND, CLYDE, *see* BAKER 12 (1961) 11
WILLAX, H. A. and A. A. GARREN, Center-region geometry of the Berkeley 88-inch cyclotron 18, 19 (1962) 347
WILLAX, H. A., *see* RICHARDSON 18, 19 (1962) 4
WILLAX, H. A., *see* GARREN 18, 19 (1962) 525
WILLIAMS, R. W., *see* PLATNER 20 (1963) 503
WILLIS, W., *see* AMATO 20 (1963) 47
WILLIS, W., *see* AUBERT 20 (1963) 5
WILLITTS, T. R., *see* METHERINGHAM 15 (1962) 297
WILSON, H. W., R. MUNRO, R. W. D. HARDY and N. R. DALY, A two stage mass spectrometer for nuclear physics applications . . . 13 (1961) 265

Wilson, P. B., Investigation of the Q of a superconducting microwave cavity **20** (1963) 336
Winters, I. J., *see* Androulakis **20** (1963) 100
Wisehart, D. E., *see* Loomis **15** (1962) 243
Wiskott, D., *see* Anders **20** (1963) 414
Withnell, R., A 4π proportional counter suitable for 4π β–γ coincidence counting and routine use **14** (1961) 279
Wittkower, A. B., *see* Rose **14** (1961) 79
Woelfel, H., *see* Androulakis **20** (1963) 100
Wolff, W., *see* Müller **18, 19** (1962) 447
Wölfli, W., *see* Jarczyk **13** (1961) 287
Wölfli, W., *see* Jarczyk **17** (1962) 310
Wong, C., *see* Anderson **15** (1962) 178
Woodley, W. A., *see* Burren **20** (1963) 461
Worsham, R. E., *see* Jones **18, 19** (1962) 46
Wright, Byron T., *see* Clark **14** (1961) 321
Wright, B. T., *see* Clark **18, 19** (1962) 1
Wright, D. H., *see* Androulakis **20** (1963) 100
Wright, K., *see* O'Neill **20** (1963) 176

Yamamoto, R. K., *see* Chretien **20** (1963) 120
Yamamoto, S., *see* Baltay **20** (1963) 37
Yamamoto, S., *see* Androukalis **20** (1963) 100
Yavin, A. I., On the duty cycle of cyclotrons **18, 19** (1962) 610
Yntema, J. L. and H. W. Ostrander, The Argonne 60-in. scattering chamber **16** (1962) 69
Young, J. D., A. S. Kenney and A. A. Garren, Computational procedures in the adjustment of a cyclotron magnetic field by trim coils **18, 19** (1962) 323
Young, R. C., *see* Simpson **16** (1962) 97
Yount, D. and J. Pine, Production of positrons with the Stanford Mark III accelerator. . . **15** (1962) 45
Yount, D., *see* O'Neill **20** (1963) 176
Yuan, L. C. L., *see* Lindenbaum **20** (1963) 256
Yuan, L. C. L., *see* Miller **20** (1963) 303
Yurka, G. E., *see* Burleson **20** (1963) 180
Yurka, G. E., *see* Burleson **20** (1963) 185
Yurka, G. E., *see* Burleson **20** (1963) 448

Zacharov, B., A method for the design of axially symmetric magnetic fields for image tube systems **17** (1962) 132
Zacharov, B., Variable magnification operation of cascaded image tubes **20** (1963) 229
Zacharov, B., *see* Bleuler **20** (1963) 208
Zarubin, I. A., *see* Andrejev **11** (1962) 297
Zel'Dovich, A. G., *see* Belonogov **20** (1963) 114
Zel'Dovich, N. K., *see* Belonogov **20** (1963) 114
Zdanis, R. A., *see* Waters **17** (1962) 44
Zen, J., *see* Gorodetzky **13** (1961) 282
Zen, J., *see* Gorodetzky **14** (1961) 205
Zen, J., *see* Gorodetzky **17** (1962) 353
Zerby, C. D., A. Meyer and R. B. Murray, Intrinsic line broadening in NaI(Tl) gamma-ray spectrometers **12** (1961) 115
Zerby, C. D. and H. S. Moran, Calculation of the pulse-height response of NaI(Tl) scintillation counters **14** (1961) 115
Zetterström, H. O., *see* Schwarz **16** (1962) 337
Ziegler, N. F., A high-voltage regulator for the ORNL 86-inch cyclotron. **18, 19** (1962) 197
Ziegler, N. F., *see* Livingston **18, 19** (1962) 438
Zimmerman, R. L., H. Palevsky, R. E. Chrien, W. C. Olsen, P. P. Singh and C. H. Westcott, The U.S.-Canadian fast chopper installation at Chalk River **13** (1961) 1
Zorn, G. T., *see* Fischer **20** (1963) 282
Zucker, A., *see* Livingston **18, 19** (1962) 438
Zucker, A., *see* Boom **18, 19** (1962) 472
Zwanenburg, J., *see* Verster **18, 19** (1962) 88

SUBJECT INDEX

Accelerators and Reactors

Proceedings of the second Accelerator Conference, Amsterdam 4–6 oct. 1960

Nuclear Physics

P. M. Endt, Resonance reactions **11** (1961) 3
L. Katz and K. H. Lokan, The generation of positrons in a thick target bombarded by fast electrons 7
L. Katz, Desirable linear electron accelerator characteristics for nuclear research 14
Torben Huus, Coulomb excitation 19
G. Goldring, Experiments using ultra-fast pulse techniques 29
E. Cotton, Durées de vie nucléaires 39
A. Schoch, A discussion of colliding beam techniques 40

Particle Research

P. H. Rose, The three-stage tandem accelerator **11** (1961) 49
H. E. Gove, Current experimentation with the tandem accelerator at the Chalk River laboratories 63
K. W. Allen, Recent research in nuclear reactions using the Aldermaston tandem generator 93
R. Fleischmann, Sources of polarized ions (for protons and similar particles) 112
Richard J. Connor, Millimicrosecond pulsing 122
J. C. Nygard and R. F. Post, Recent advances in high power microwave electron accelerators for physics research 126

Physics and Radiation Research

U. Gonser and K. Lücke, The use of Van de Graaff accelerators for high intensity neutron irradiation of metals . **11** (1961) 139
K. H. Beckurts, Reactor physics research with pulsed neutron sources 142
Fernando Amman, The KS-3 MeV Van de Graaff injector of the Frascati electron synchrotron 160
J. Kistemaker, On ion sources with high efficiency and intensity 170
John W. Otvos, V. P. Guinn, H. R. Lukens Jr. and C. D. Wagner, Photoactivation and photoneutron activation analysis 184
P. Baruch, The use of the electron accelerator in solid state physics 190
Wolfgang Huber, High energy radiation for research in biochemistry and microbiology 210
S. H. Pinner and W. H. T. Davison, The development of radiation process applications 227
D. Moore, Neutron, electron and X-ray beams used for radiation research from a Van de Graaff generator . . . 233
D. A. Trageser, Future accelerators: intense sources for processing 243

A 200 microampere negative ion source, utilising a supersonic mercury jet, Ralph H. V. M. Dawton 32
The design of bunching magnets, R. E. Holland **12** (1961) 10
On the natural pulsing of cyclotron external beams in the nanosecond range, F. Ţintă, N. Martalogu, R. Dumitrescu and T. Magda 13
Betriebszustände des Mikrotrons mit geteiltem Magnet (racetrack microtron), A. Paulin 15
Experimental verification of the space charge law ($I = k(e/m)^{\frac{1}{2}}V^{\frac{3}{2}}$) for ion beams from a plasma ion source, W. L. Rautenbach 16
Magnetic field of alternately charged symmetric multipole magnet, Masateru Sonoda, Akira Katase, Masao Seki and Tsunekazu Akiyoshi 34
Production of high intensity ion pulses of nanosecond duration, L. Cranberg, R. A. Fernald, F. S. Hahn and E. F. Shrader 33
The U.S.-Canadian fast chopper installation at Chalk River, R. L. Zimmerman, H. Palevsky, R. E. Chrien, W. C. Olsen, P. P. Singh and C. H. Westcott **13** (1961)
Ioneneinfang und Anfangsbahnen im Isochron-Zyklotron Karlsruhe, Martin Reiser 5
Performance estimates for injector cyclotrons, H. G. Blosser and M. M. Gordon 10
Hydrogen and carbon target preparation for a positive ion accelerator, R. D. McCormick and J. D. McCormack . 14
Simultaneous nuclide identification and energy measurement of nuclear reaction products, Carl E. Anderson, D. A. Bromley and M. Sachs 23

The nuclear reactor as a high intensity source for discrete gamma rays up to 11 MeV, L. Jarczyk, H. Knoepfel, J. Lang, R. Müller and W. Wölfli **13** (1961) 287
Les lentilles quadrupolaires électrostatiques, A. Septier et J. Van Acker 335
Quantitative measurements of ion beam properties, P. H. Rose, A. B. Wittkower, R. P. Bastide and A. Galejs **14** (1961) 79
The effect of curvature on the fields in a circular accelerator, J. Van Bladel 101
A non-intercepting accelerator beam position sensor, K. Johnson, T. Klippert and W. J. Ramler 125
An experimental equipment for the rapid recognition of excursions in reactors at low flux levels, C. H. Vincent and R. J. Lamden 143
A beam profile indicator for use with high energy particle accelerators, G. Manning and A. C. Sherwood . . . 182
Isotope production with the Nuffield 60-inch cyclotron (part 1), K. F. Chackett, G. A. Chackett and W. B. Hardy 215
Isotope production with the Nuffield 60-inch cyclotron (part 2), K. F. Chackett, G. A. Chackett, Bikram Singh and G. B. Briscoe 219
On the field errors at low magnetic field of the a. c. magnets for a synchrotron, Hiroshi Sasaki 252
Magnetic analysis of 42-MeV cyclotron alpha particles, D. K. McDaniels, W. brandenberg, G. W. Farwell and D. L. Hendrie 263
Convoyeur pneumatique rapide pour l'irradiation d'échantillons dans un réacteur, E. C. Campbell et P. F. Fettweis 272
The criteria and techniques of magnetic field measurement used on the UCLA 50 MeV spiral ridge cyclotron, David J. Clark, J. Reginald Richardson and Byron T. Wright 321
Secondary emission beam monitors for 0.5 to 3.5 MeV electrons, V. J. Vanhuyse, E. D. Wattecamps, R. E. van de Vijver and G. J. Vanpraet **15** (1962) 59
Efficiency of secondary emission monitors for electron beams, V. J. Vanhuyse and R. E. van de Vijver. . . . 63
A source of polarized ions, J. E. Sherwood 103
A source for the production of polarized protons, G. H. Stafford, J. M. Dickson, D. C. Salter and M. K. Craddock 146
The Livermore 90-inch-cyclotron neutron-time-of-flight facility, J. D. Anderson and C. Wong 178
Ion beam control in a duoplasmatron source, L. E. Collins and R. J. Brooker 193
A 200-kV Cockcroft-Walton type accelerator using selenium rectifiers, R. Kato and T. Kōno. 197
A simple electron gun for use in electron scattering studies, W. Parker, C.- J. Andreen and H. Slätis 200
Electron spin rotation and beam focusing, P. S. Farago 222
Ozone hazards incurred by electron Van de Graaff operation, J. S. Loomis, I. T. Myers, H. V. Larson and D. E. Wisehart 243
Dead-time losses with pulsed beams, A. M. Cormack 268
Weak lens formulas for accelerating tubes, M. Morikawa 282
Etude de moniteurs de courant pour un accélérateur linéaire d'électrons, R. Bergere, E. Delezenne et A. Veyssiere 327
Energy-dependent multiple scattering of neutrons in thin plates, R. O. Lane and W. F. Miller **16** (1962) 1
Some remarks on force-free coils, J. Van Bladel 101
Systematic study of some cold-neutron sources, W. Van Dingenen 116
Resonance self-shielding in the measurement of radiative capture cross sections, L. Dresner 176
Electron cyclotron resonances in a radiofrequency ion source, I. Ogawa and N. Abe 227
Calcul du spectre de pollution en μ des faisceaux de mésons μ, J. Fronteau 233
A Van de Graaff beam deflecting system employing two 45° deflecting magnets, S. E. Hunt and E. C. Fellows . . 326
Betatron potential wells, A. G. Rubin and M. A. Levine **17** (1962) 75
Gas entrainment recoil target assembly, A. M. Friedman and W. C. Mohr 78
The magnet power servo system for the Princeton-Pennsylvania proton synchrotron, S. Waaben 87
Etude d'une source d'ions du type magnetron inverse pour cyclotron, D. Garreta, P. Benezech et G. Knitter. 123
A method for the design of axially symmetric magnetic fields for image tube systems, B. Zacharov. 132
Electron model studies of particle motions in spiral ridge magnetic fields, D. Orr 151
Herstellung eines neutralen Wasserstoffatomstrahls, H. Röpke und H. Spehl 169
A high intensity nanosecond pulsed Van de Graaff accelerator, L. E. Beghian and M. K. Salomaa 181
The oscillator for the variable energy cyclotron, I. Hayashi 261

Proceedings of the International Conference on Sector-Focused Cyclotrons held at the University of California, Los Angeles (17–20 april 1962)

I. Operating Characteristics and Design Features

D. J. Clark, J. R. Richardson and B. T. Wright, Design and operation of the UCLA 50 MeV spiral-ridge cyclotron **18** **19** (1962) 1

A. J. Cox, D. E. Kidd, W. B. Powell, B. L. Reece and P. J. Waterton, Operation of a 40-inch radial ridge cyclotron **18, 19** (1962) 25
E. L. Kelly, General description and operating characteristics of the Berkeley 88-inch cyclotron 33
J. R. Richardson, H. Willax and W. B. Jones, Note on a spill beam from the 88-inch cyclotron 41
R. J. Jones, E. D. Hudson, R. S. Livingston, R. S. Lord, M. B. Marshall, W. R. Smith, W. H. White Jr. and R. E. Worsham, Unique features in the Oak Ridge isochronous cyclotron 46
D. A. Lind, J. J. Kraushaar, R. Smythe and M. E. Rickey, General design features of the University of Colorado 52-inch cyclotron 62
M. E. Rickey and R. Smythe, The acceleration and extraction of negative hydrogen ions in the C.U. cyclotron 66
D. L. Judd, Electric dissociation of negative hydrogen ions in cyclotrons and synchrocyclotrons 70
A. Luccio, G. Pavanati, F. Resmini, C. Succi and G. Tagliaferri, Relativistic cyclotron for the University of Milan 74
A. Cabrespine and M. P. Bourgarel, Shimming of a variable energy, sector-focused isochronous cyclotron by means of different permeability metals 81
N. F. Verster, H. L. Hagedoorn, J. Zwanenburg, A. J. J. Franken and J. Geel, Some design features of the Philips AVF prototype 88
W. C. Parkinson and R. S. Tickle, The University of Michigan 83-inch cyclotron, I, General description . . . 93
R. S. Tickle, The University of Michigan 83-inch cyclotron, II, The magnetic field 98
P. Bruinsma and W. C. Parkinson, The university of Michigan 83-inch cyclotron, III, The r.f. system 102
J. Bardwick, J. M. Lambert and W. C. Parkinson, The University of Michigan 83-inch cyclotron, IV, The external beam handling system 105
K. G. Standing, J. J. Burgerjon and F. Konopasek, The University of Manitoba cyclotron 111
J. D. Lawson, Studies for a 70-inch versatile cyclotron 114
J. A. Jungerman, N. F. Peek and C. G. Patten, A preliminary report on the 22-inch spiral ridge cyclotron at the University of California, Davis 120
F. T. Howard, Catalogue of isochronous cyclotrons 125

II. Magnetic Fields

D. A. Lind, M. E. Rickey and B. M. Bardin, Magnetic field design and measurement for the Colorado 52-inch cyclotron **18, 19** (1962) 129
J. H. Dorst, Full-scale magnetic measurements on the Berkeley 88-inch cyclotron 135
J. H. Coupland and K. J. Howard, Some model magnet measurements and their application to the design of a 70-inch spiral ridge cyclotron 148
E. D. Hudson, R. S. Lord, M. B. Marshall, W. R. Smith and E. G. Richardson Jr., Achievement and measurement of the ORIC magnetic field 159
W. H. White Jr., Magnet regulators for ORIC 170

III. Radio Frequency Systems

K. R. Mackenzie, S. Plunkett and E. L. Petersen, Characteristics of the UCLA cyclotron radiofrequency system **18, 19** (1962) 177
B. H. Smith, Radiofrequency system of the Berkeley 88-inch cyclotron 184
J. Sanada, I. Hayashi and A. Suzuki, Comparison between variable-energy synchrocyclotron and sector-focused cyclotron 194
N. F. Ziegler, A high-voltage regulator for the ORNL 86-inch cyclotron 197

IV. Orbit Theory

H. L. Hagedoorn and N. F. Verster, Orbits in an AVF cyclotron **18, 19** (1962) 201
F. Fer, Analytical theory of betatronic stability in sector-focused accelerators 229
M. M. Gordon and W. S. Hudec, Effects of field imperfections on radial stability in a three-sector cyclotron. . 243
M. M. Gordon, The electric gap-crossing resonance in a three-sector cyclotron 268
M. M. Gordon, Fixed-point orbits in the vicinity of the $\nu_r = N/3$, $N/4$ and $N/2$ resonances 281

V. Computer Programs

H. C. Owens, Three computer programs for calculating cyclotron orbits **18, 19** (1962) 295
R. H. Bassel, R. S. Bender and J. G. Innes, Analyzing methods for ORIC magnetic fields 303
A. A. Garren, Calculation of cyclotron trim-coil currents for field optimization by linear programming methods . 309
J. D. Young, A. S. Kenney and A. A. Garren, Computational procedures in the adjustment of a cyclotron magnetic field by trim coils 325

N. F. Verster and H. L. Hagedoorn, Computer programs for an AVF cyclotron **18, 19** (1962) 327
H. L. Hagedoorn and N. F. Verster, Analogue computer studies for an AVF cyclotron 336
G. Parzen, J. C. Anderson, M. R. Storm, J. M. Maynard and H. L. Carlson, A computer program to investigate orbit stability in circular accelerators 338
T. I. Arnette, H. G. Blosser, M. M. Gordon and D. A. Johnson, Cyclotron programs for a small computer . . 343

VI. Central Region

H. A. Willax and A.A. Garren, Center-region geometry of the Berkeley 88-inch cyclotron **18, 19** (1962) 347
P. G. Watson, Development of the magnetic cone for the center of the Berkeley 88-inch cyclotron 362
M. Reiser, Central orbit program for a variable energy multi-particle cyclotron 370
M. M. Gordon and H. G. Blosser, Acceleration of particles into stable orbits in an isochronous three-sector cyclotron 378

VII. Meson Factories

R. P. Haddock, The role of the pion factory in elementary particle physics **18, 19** (1962) 387
L. Smith, Comparison of accelerator types 397
R. Wallace, Shielding and activation considerations for a meson factory 405
J. P. Blaser and K. Steimel, Proposal for a constant-frequency sector-focussed cyclotron for protons of 450 MeV 417
M. Barbier, P. Lapostolle, M. Morpurgo and N. Vogt-Nilsen, On the design of an isochronous cyclotron meson factory 425
R. S. Livingston, E. D. Hudson, R. J. Jones, R. S. Lord, J. E. Mann, J. A. Martin, F. M. Russell, N. F. Ziegler and A. Zucker, Concepts of an Mc^2 cyclotron 438
W. Müller and W. Wolff, Considerations on the design of a spiral ridge cyclotron for 450 MeV protons . . . 447
J. R. Richardson, Preliminary considerations on meson cyclotrons 457
J. A. Martin and J. E. Mann, Beam characteristics in cyclotron Analogue II 461
R. J. Jones, Remarks on tune-up of Analogue II 469
R. W. Boom, K. S. Toth and A. Zucker, Radiation survey at the LRL 184-inch cyclotron 472

VIII. Beam Extraction

E. A. Finlay, A proposal for linear regenerative extraction from the Birmingham radial-ridge cyclotron . . **18, 19** (1962) 479
H. G. Blosser, M. M. Gordon and T. I. Arnette, Resonant extraction from three-sector low-spiral cyclotrons 488
M. K. Brussel, J. S. Allen and L. E. Ernest, Beam extraction from the University of Illinois sector-focussed cyclotron 520
A. A. Garren, D. L. Judd, L. Smith and H. A. Willax, Electrostatic detector calculations for the Berkeley 88-inch cyclotron 525

IX. Mechanical Design

R. Peters, Metal gaskets for the Berkeley 88-inch cyclotron **18, 19** (1962) 549
R. Peters, Mechanical features of the electrostatic deflector for the Berkeley 88-inch cyclotron 552
J. M. Haughian and R. J. Burleigh, The ion-source mechanism for the Berkeley 88-inch cyclotron 559
K. F. Mirk, Mechanical features of the r.f. system for the Berkeley 88-inch cyclotron 562
K. W. Ehlers, Design and development of the ion source for the Berkeley 88-inch cyclotron 571
L. R. Glasgow and R. J. Burleigh, Trim-coil construction for the Berkeley 88-inch cyclotron 576
R. Smythe, University of Colorado 52-inch cyclotron dee design 582
R. De Forest, A Hall probe assembly for the Berkeley 88-inch cyclotron magnet 584

X. Diverse Topics

H. Atterling, Beam-transport system for the Berkeley 88-inch cyclotron **18, 19** (1962) 589
C. G. Dols, Measurement of beam phase of the Berkeley 88-inch cyclotron 595
W. H. White Jr., B. Duelli and R. J. Jones, Beam-phase measurement studies 601
T. K. Khoe, A method to increase the duty factor of an isochronous cyclotron 606
A. I. Yavin, On the duty cycle of cyclotrons 610
W. L. Dexter and B. H. Smith, Application of silicon diodes to cyclotron oscillator and magnet power supplies 613
H. Brückmann, Ferroelectric modulators 622
T. H. Myhrer and W. P. Carpender, Building, site, utilities and services for the Berkeley 88-inch cyclotron . 627
R. J. Burleigh, Costs and manpower for the Berkeley 88-inch cyclotron 634

Counters, Chambers and Detectors

Apparatus for automatic treatment of photographs obtained from bubble chambers, E. M. Andrejev, P. Hiršl, G. M. Kadikov, S. M. Korenchenko, V. M. Lachinov, A. G. Morozov, K. G. Nekrasov, R. Pose, M. I. Popov, V. V. Smirnov, N. S. Tolstoj and I. A. Zarubin **11** (1961) 297
Application of surface barrier solid state ionization chambers to measurements on fission, Edward Melkonian 307
Système de détection des particules analysées par un aimant, R. Chaminade, M. Cros, A. Papineau et J. Saudinos 321
Thick junction radiation detectors made by ion drift, Jack H. Elliott **12** (1961) 60
Observations on the response of two p–n junction diodes to protons, J. Benveniste, R. Booth and A. C. Mitchell 67
The semiconductor surface barrier for nuclear particle detection, G. Dearnaley and A. B. Whitehead 205
Leakage current in semiconductor junction radiation detectors and its influence on energy-resolution characteristics, Fred S. Goulding and William L. Hansen 249
Transit time of charge carriers in the semiconductor ionization chamber, P. A. Tove and K. Falk 278
A 12 cm liquid deuterium bubble chamber, H. W. K. Hopkins, M. Davison, L. Lyons, J. M. Breare, D. Roaf and D. F. Shaw 323
Détecteur G. M. pour un spectromètre bêta, Jean Kern **13** (1961) 50
The response of organic scintillators to fast neutrons, R. Batchelor, W. B. Gilboy, J. B. Parker and J. H. Towle 70
Operation of a 9-inch bubble chamber with deuterium, W. P. Dodd, G. A. Doran, J. B. Kinson, L. Riddiford, B. Tallini. 127
Experiences in the use of scintillation detector in a β-spectrometer of toroid-sector type, D. Berényi and Gy. Máthé. 161
The double-grid ionization chamber, Iwao Ogawa, Tadayoshi Doke and Masahiro Tsukuda 169
Improved fission counting method for uranium isotope analysis, Gösta Nilsson 183
A miniature fast fission counter, G. D. Hickman 190
Diode à barrière de surface pour la détection de particules nucléaires, J. Bok et J. P. Noel 206
A propane bubble chamber with mechanical expansion, D. W. Anderson and J. McKenzie 231
Solid-state detector for monitoring 14-MeV neutron production, R. Cedarlund, A. Horn and M. Scolnick . . 305
Optimum location of BF_3 counters in a neutron moderator, C. W. Peters and A. L. Snyder. 309
An improved Li^6-loaded glass scintillator for neutron detection, F. W. K. Firk, G. G. Slaughter and R. J. Ginther 313
A new design of a multiple-wire spark counter and some studies with the single wire-plate spark counter, Gurbax Singh and N. K. Saha 321
On a 2π gas-flow counter for low-level counting, A. Alberigi-Quaranta, B. Righini, V. Prodi and O. Rimondi **14** (1961) 13
Pulse shape discrimination, L. Varga 24
A mechanism of the propagation of Geiger discharge in halogen-quenched G. M. counters, Juichi Akutsu . . . 87
Calculation of the pulse-height response of NaI(Tl) scintillation counters, C. D. Zerby and H. S. Moran 115
Experimental determination of summing distributions in scintillation detectors, G. B. Vingiani and S. Monaro 138
Experimental study of the influence of non-proportional response of NaI(Tl) scintillation crystals upon the energy resolution for gamma rays, P. Thieberger, E. C. O. Bonacalza and H. Ryde 225
A large aperture detector for slow positive ions, B. W. Ridley 231
A 4π proportional counter suitable for $4\pi\ \beta\ \gamma$ coincidence counting and routine use, R. Withnell 279
A particle identification system, L. Wåhlin 281
High-pressure gas scintillation counters, R. E. Shamu 297
Absolute beta counting by an end-windowed G. M. counter, P. Brovetto, E. Chiavassa, G. Rosa and A. Pasquarelli. 302
Influence de la présence d'une jonction PP^+ sur le comportement d'un détecteur de particules nucléaires à jonction NP, Jean Messier et Jean Valin 307
Stopping of Cf^{252} fission fragments in emulsion, Kenneth D. Sevier 318
An analytic treatment for scintillation counter time resolution functions, M. A. El-Wahab and J. V. Kane . . **15** (1962) 15
Problems posed by the study of bubble chamber photographs with the chamber operating in an electron beam, R. Weill and E. Malamud. 23
A fast-neutron activation detector for 14-MeV pulsed neutron sources, L. Ruby and J. B. Rechen 74
Spark counter as a light pulser for phototube testing, S. L. Gupta and N. K. Saha 95
Evaluation of the absolute activity of alpha emitters and of the number of nuclei in thin alpha active layers, A. J. Deruytter 164
Electronic elimination of noise pulses in scintillation counting, C. J. S. Damerell. 171
On the operational characteristics of a gas flow Counter. C. H. Parekh 213
A four liters liquid helium bubble chamber, E. Di Capua, U. Dore, G. C. Gialanella, P. Guidoni, I. Laakso and G. C. Moneti. 273
A double proportional counter for absolute measurements on low energy photons and electrons, P. Kramer, J. de Ridder and J. Blok 289
A balanced ionisation chamber for accurate beam location, A. J. Metheringham and T. R. Willitts. 297
Efficiency of a long counter as a function of the direction and locus of incidence of the neutron, E. Landim, E. W. Hamburger and O. Dietzsch 300

Location of the position of a spark in a spark chamber, G. Charpak **15** (1962) 318
Location of the position of a particle trajectory in a scintillator, G. Charpak, L. Dick and L. Feuvrais 323
A small, linear, wide range nuclear radiation detector, T. A. Rabson **16** (1962) 37
The Argonne 60-in. scattering chamber, J. L. Yntema and H. W. Ostrander 69
Directional resolution and shielding properties of a long counter, S. Børresen, B. Grimeland and S. Messelt . . 135
Note on moment analysis of delayed coincidence experiments, T. Sundström 153
Calibration of solid state p-n detectors with alpha and heavy high-energy particles, J. Colard and J. Gal . . . 195
The γ-ray performance of a large volume plastic scintillator, T. A. Iinuma and P. R. J. Burch 247
Digitized spark chambers, F. Krienen 262
On the design of a silicon junction radiation detector made by ion drift, P. E. Gibbons 284
Operating characteristics of a sum-coincidence spectrometer, S. I. H. Naqvi 305
On the differential method of g-factor measurements of short-lived excited nuclear states, A. Z. Hrynkiewicz. . 317
Measurement of the energy response of a B^{10} shielded U^{235} fission chamber, J. K. Basson and J. A. Dennis . . 321
A new method for mounting scintillation crystals with an improved energy resolving power, Gy. Mathé and R. Voszka 335
A problem in the treatment of data from nuclear counters: The determination of parameters from grouped samples, S. Schwarz and H. O. Zetterström 337
DISC: Compteur Cherenkov à selection de vitesse, R. Meunier, J. P. Stroot, B. Leontic et A. Lundby . . . **17** (1962) 1
Compteur DISC à radiateur liquide, R. Meunier, J. P. Stroot, B. Leontic, A. Lundby et P. Duteil 20
A scintillation chamber–image intensifier beam profile detector, J. R. Waters, G. T. Reynolds, D. B. Scarl and R. A. Zdanis. 44
Acoustic spark chamber, B. C. Maglić and F. A. Kirsten 49
Effect of forward-voltage ion-drift on the operation of lithium-drifted silicon junction detectors, H. M. Mann and F. J. Janarek 71
Die lichtüberführung bei einem dE/dx-Zähler mit Photovervielfacher, D. Netzband. 81
Neutron detection with glass scintillators, L. M. Bollinger and G. E. Thomas. 97
A method of measuring the efficiencies for detecting high energy neutrons in organic scintillators, P. H. Bowen, G. C. Cox, G. B. Huxtable, A. Langsford, J. P. Scanlon, G. H. Stafford and J. J. Thresher 117
A boron-loaded liquid scintillation neutron detector using a single photomultiplier, G. E. Thomas 137
Alpha monitor with solid-state detector, E. M. Sheen 140
Measurement of (γ, Tn) reactions induced by means of a 100 MeV synchrotron, S. Costa and S. Ferroni . . . 145
Dependence of line widths of scintillation counters on integrating time constant, P. Onno and R. E. Bell . . . 149
Le sondage précis du volume sensible des compteurs de Geiger-Müller à l'aide de filaments plastiques scintillants, P. Benoit-Cattin et D. Blanc. 171
Neutron background due to Ta backings for lithium targets, C. T. Hibdon 177
Untersuchungen über das kurzzeitige Abklingen einiger organischer Szintillatoren bei Anregung mit γ-Strahlung, Protonen oder α-Teilchen, L. Peuckert 257
Directional anisotropy in the characteristics of the organic-crystal scintillators, K. Tsukada and S. Kikuchi . . 286
On the absolute detection efficiency of a cylindrical scintillation phosphor in the case of an extended plane γ-ray source, C. C. Grosjean 289
Photopeak efficiency and response function of various NaI(Tl) and CsI(Tl) crystals in the energy range up to 11 MeV, L. Jarczyk, H. Knoepfel, J. Lang, R. Müller and W. Wölfli 310
Cyanoplatinate (II) salts as luminescent materials for scintillation counting, P. Bergsøe, P. G. Hansen and C. F. Jacobsen. 325

Instruments and Methods for High-Energy Physics

Test routines and monitoring for a large counter experiment, Stanley C. Baker, Quentin A. Kerns, Frederick A. Kirsten, Dick A. Mack and Thomas A. Nunamaker **12** (1961) 1
Hodoscope system for experiments on the scattering of cosmic ray mu-mesons. Part III – Theory of the hodoscope, M. A. Meyer, J. A. M. de Villiers and A. J. van der Walt 180
Finite geometry corrections for angular correlation measurements, D. J. Rowe, G. L. Salmon and A. B. Clegg . 353
Measuring machine for bubble chamber photographs, B. B. Culwick and S. J. Goldsack **13** (1961) 118
Scanning apparatus for bubble chamber data analysis, G. Brunhart, C. D. Gall, C. Vittitoe, K. Schneider and V. P. Kenney **14** (1961) 38
Investigation of the nuclear cascade in shielding materials, A. Citron, L. Hoffmann and C. Passow 97
A time-of-flight spectrometer for fast neutrons, P. Huber, Z. Lewandowski, R. Plattner, C. Poppelbaum and R. Wagner 131
An investigation of the production of polarized neutron beams in the energy range 18 to 120 MeV, P. H. Bowen, G. C. Cox, G. B. Huxtable, J. P. Scanlon, J. J. Thresher, and A. Langsford **15** (1962) 31
Production of positrons with the Stanford Mark III accelerator, D. Yount and J. Pine 45
Use of a 200 kilogauss pulsed magnetic field for momentum measurements of high-energy particles in nuclear emulsions, L. Hoffmann and J. C. Combe 51

An investigation of π^- contamination in μ^- beams, A. Citron, C. Delorme, D. Fries, J. Heintze, E. G. Michaelis, H. Øverås and Yu. Shtcherbakov 15 (1962) 121
Absolutmessung der Teilchenflussdichte schneller Elektronen mit einem Faraday-Käfig, J. Kretschko, D. Harder und W. Pohlit 16 (1962) 29
Essais de discrimination de particules chargées par la méthode ionographique, R. Stein, H. Eberle et R. Oppel 240
A photometric device for track profile measurement in nuclear emulsion, I. R. Kenyon 348

Proceedings of the 1962 Conference on Instrumentation for High-Energy Physics held at CERN, Geneva (16–18 July 1962)

I. New Experimental Techniques for Use at Ultra-High Energies and Accelerator Developments and Improvements

J. Sandweiss, Experimental techniques at ultra-high energies 20 (1963) 1
H. G. Hereward, Current development of high energy-proton synchrotrons 9

II. Machine Developments and Improvements

B. Milman, A three-magnet extraction system for the 1 GeV Orsay linear accelerator 20 (1963) 13
D. B. Isabelle and P. H. Roy, Factors influencing the stability of a secondary electron monitor 17
C. Germain and R. Tinguely, Electrostatic separator technique at CERN 21
J. J. Murray, Mass separation by means of microwave linear acceleration in secondary beams 26
E. L. Chu and J. Ballam, Calculations of a magnetic field momentum-defining slit 31
A. Ašner and R. Mosig, A d.c. magnet power supply for 125V, 500A with controlled silicon rectifiers 35

III. Beam Transport

C. Baltay, J. Sandweiss, J. Sanford, H. Brown, M. Webster and S. Yamamoto, The separated beam at the AGS – performance with antiprotons and π^+ – mesons 37
J. Leitner, G. Moneti and N. P. Samios, Performance of the AGS separated beam with high-energy kaons . . . 42
G. Amato, H. Courant, H. Filthuth, E. Malamud, G. Petrucci, A. M. Segar, W. T. Toner and W. Willis, A one-stage separated K-meson beam of 1.5 GeV/c momentum at the CPS 47
B. Aubert, H. Courant, H. Filthuth, A. Segar and W. Willis, Low energy separated beam at the CERN PS 51
W. F. Baker, A computer program to optimize magnets in a beam transport system 55
M. Giesch, B. Kuiper, B. Langeseth, S. van der Meer, D. Neet, G. Plass, G. Pluym and B. de Raad, Status of magnetic horn and neutrino beam 58
M. Barbier, J. D. Dowell, P. I. P. Kalmus, B. Leontic, A. Lundby, R. Meunier, G. Petrucci, L. Solinas, J. P. Stroot and M. Szeptycka, Design and performance of a small-angle, high-intensity secondary particle beam from the CERN Proton Synchrotron 66

IV. Bubble Chambers

R. P. Shutt, Recent advances in the bubble chamber technique 20 (1963) 71
S. Ya. Nikitin, The hydrogen bubble chamber of the Institute of Theoretical and Experimental Physics, Moscow 95
J. G. Androulakis, J. A. Bamberger, D. P. Brown, H. O. Courtney, B. B. Culwick, J. J. Diener, W. B. Fowler, C. L. Goodzeit, J. Hanush, E. L. Hart, H. Houtsager, J. E. Jensen, D. A. Kassner, D. T. Liverios, R. I. Louttit, S. C. Mo, T. W. Morris, R. B. Palmer, P. A. Pion, R. R. Rau, R. Rutan, R. P. Shutt, J. H. Sondericker, A. M. Thorndike, W. A. Tuttle, I. J. Winters, H. Woelfel, D. H. Wright, S. S. Yamamoto, F. Anderson, H. W. Courant and H. L. Kraybill, Brookhaven National Laboratory 80″ hydrogen bubble chamber status and plans 100
M. P. Balandin, N. G. Borisov, Wang Yung-Chang, R. P. Kukhareva, V. A. Moiseenko, V. I. Snyatkov, M. I. Soloviev and I. V. Chuvilo, A 2-metre propane bubble chamber 110
A. V. Belonogov, A. A. Belushkina, R. Vinaver, V. N. Vinogradov, V. V. Glagolev, E. I. Dyachkov, A.G. Zel'dovich, N. K. Zel'dovich, E. V. Kozubsky, R. M. Lebedev, M. Maly, N. N. Melnikova, A. M. Moiseev, I. S. Saitov, Yu. A. Turbin, E. P. Ustenko, I. V. Chuvilo and A. Shishov, A liquid hydrogen bubble chamber of volume 950 × 350 × 300 mm³ 114
W. H. Bergmann, J. Gruber, G. Hahn, G. Harigel, P. Meyer, K. Moustafa and H. Röhm, High field bubble chamber 116
M. Chretien, D. R. Firth, R. K. Yamamoto, I. A. Pless and L. Rosenson, The use of an internal liquid hydrogen target with a methyl-iodide bubble chamber 120
F. Bulos, R. E. Lanou, Jr, I. A. Pless and L. Rosenson, A portable 5 cm freon bubble chamber for the investigation of particle beam profiles 125

Yu. A. Budagov, V. P. Dzhelepov, V. G. Ivanov, Yu. F. Lomakin, V. B. Flyagin and P. V. Shlyapnikov, Bubble chamber operation in the regime of auto-oscillations. **20** (1963) 128
B. Hahn and R. N. Peacock, Ultrasonic cavitation induced by neutrons 133
N. N. Biswas, I. Derado, K. Gottstein, V. P. Kenney, D. Lüers, G. Lütjens and N. Schmitz, Particle identification from track density for 4 GeV/c π^-p reactions in the 80 cm hydrogen bubble chamber 135
O. Balea, M. Batagui, A. Mihul and C. Potoceanu, A device for the determination of track-ionization in bubble chambers 140
G. Amato, W. A. Cooper, Y. Kornelis and L. Naumann, Automatic gap counting, ... 141

V. Spark Chambers

J W. Cronin, Present status of spark chambers **20** (1963) 143
F. Schneider and K. H. Höhne, Influence of gas admixtures on the sensitive time of spark chambers 152
C. T. Coffin, L. J. Curtis, D. I. Meyer and K. M. Terwilliger, Use of relative ionization for particle identification in multitrack spark chamber pictures 156
H. Faissner, F. Ferrero, A. Ghani, F. Krienen, T. B. Novey and M. Reinharz, Spark chamber efficiency for electron shower detection 161
B. C. Maglić, The sonic spark chamber and some of its experimental aspects 165
F. Krienen, A digitized spark chamber 168
D. Keefe, L. T. Kerth, C. M. Noble, J. J. Thresher and W. A. Wenzel, A magnetic spectrometer using spark chambers to obtain large solid angle and high resolution in π–π interaction studies 171
C. Rey and S. Parker, Modular spark chambers 173
G. K. O'Neill, F. V. Murphy, K. Wright and D. Yount, Magnetic-field spark chambers 176
G. R. Burleson, T. F. Hoang, P. I. P. Kalmus, R. L. Kuskowski, L. Q. Niemela, A. Roberts, T. A. Romanowski, S. D. Warshaw and G. E. Yurka, Design and construction of a large magnetic-field spark chamber system 180
G. R. Burleson, T. F. Hoang, P. I. P. Kalmus, R. L. Kuskowski, L. Q. Niemela, A. Roberts, T. A. Romanowski, S. D. Warshaw and G. E. Yurka, Initial operation and performance a of large magnetic-field spark chamber system 185
K. Lande, A. K. Mann and D. H. White, A simple optical system for using standard magnets with spark chambers 193
V. S. Kaftanov and V. A. Liubimov, Spark chamber use in high energy physics 195
Yu. D. Bayukov, G. A. Leksin, D. A. Suchkov and V. V. Telenkov, Spark chambers with small amount of material along the tracks 198
G. Peter, A. A. Tyapkin, A. F. Pisarev and Tzou Chu-Lyang, The appearance of inclined discharge channels along an ionizing particle track 201
E. F. Beall, W. Holley, D. Keefe, L. T. Kerth, J. J. Tresher, C. L. Wang and W. A. Wenzel, Cylindrical spark-chamber array used for the measurement of angle, range and polarization in a study of K^-–p interactions 205
E. Bleuler, D. O. Caldwell, B. Elsner, D. Harting, L. W. Jones, W. C. Middelkoop, B. Zacharov, M. L. Perl and C. C. Ting, The application of thin-plate spark chambers to high-energy π–p experiments 208
H. Faissner, F. Ferrero, A. Ghani, E. Heer, F. Krienen, G. Muratori, T. B. Novey, M. Reinharz and R. A. Salmeron, The CERN neutrino spark chamber 213

VI. Scintillation Chambers

D. M. Binnie, M. Jane, J. A. Newth, D. C. Potter and J. Walters, Homogeneous scintillation chambers and the photography of Cherenkov light **20** (1963) 221
G. T. Reynolds and J. R. Waters, Photoelectron detection efficiency of high-gain image intensifier systems used with scintillation chambers. 226
B. Zacharov, Variable magnification operation of cascaded image tubes 229
O. Gildemeister and R. Giese, Status report on a luminescent chamber 233
S. Fukui, S. Hayakawa, T. Tsukishima and H. Nukushina, Microwave discharge chamber 236
C. Cavalleri. E. Gatti and G. Redaelli, Light chamber or gas amplified scintillation chamber 238
M. M. Butslov, M. N. Medvedev and V. M. Sheshunov, A method for measurement of charged particle elastic scattering at small angles 242
K. Lande, A. K. Mann and D. H. White, Range measurement and particle identification in a plate-loaded filamentary chamber 245

VII. Counter Techniques

V. L. Fitch, Recent advances in counter techniques. **20** (1963) 247
S. J. Lindenbaum, W. Love, S. Ozaki, J. Russell and L. C. L. Yuan, Focussing gaseous Cherenkov counters for particle identification at the Brookhaven AGS 256

M. F. Likhatchev and V. S. Stavinsky, Angular gas Cherenkov counter . . . 261
M. M. Butslov, M. N. Medvedev, I. V. Chuvilo and M. V. Sheshunov, The detection of Vavilov-Cherenkov radiation cone from high-energy single particles . . . 263
G. T. Reynolds, J. R. Waters and S. K. Poultney, Cherenkov rings from single particles observed with a high-gain image intensifier system . . . 267
J. D. Dowell, P. Duteil, B. Leontic, A. Lundby, R. Meunier, J. P. Stroot and M. Szeptycka, Effect of Cherenkov light polarization on total reflection counter . . . 271
A. I. Alikhanyan, E. U. Laziev and W. A. Tumanyan, On a possible method of registration of high-energy neutrinos . . . 276
A. S. Dvoretski, V. A. Kazakov, I. V. Kolesov, Yu. Oravets, I. I. Skril, V. F. Sikolenko, L. V. Silvestrov, N. S. Frolov and M. S. Khvastunov, System for the registration of particle entrance coordinates for an emulsion chamber . . . 277
J. Fischer and G. T. Zorn, Spark chamber labelling of tracks in a bubble chamber . . . 282
H. Faissner, F. Ferrero, A. Ghani and M. Reinharz, Performance of large liquid scintillation counters . . . 289
G. Backenstoss, B. D. Hyams, G. Knop and U. Stierlin, Properties of a total absorption scintillation detector for particles in the GeV region . . . 294
S. J. Lindenbaum, A counter hodoscope system with digital data handler and on-line computer for elastic scattering and other experiments at Brookhaven AGS . . . 297
G. L. Miller, S. Wagner and L. C. L. Yuan, Investigations on lithium-drift solid state detectors for high-energy particle detection . . . 303
C. P. Wang, Electronic instrumentation for research in elementary particle physics and cosmic rays at Hong Kong 306

VIII. Electronic Circuitry

E. Baldinger. Tunnel-diodes in fast circuits . . . **20** (1963) 309
C. Wiegand, Electronic counter techniques at Berkeley . . . 313
F. Pandarese and F. Villa, Tunnel diode fast discriminator circuits . . . 319
H. Verweij, A 100 Mc/s discriminator and scaler . . . 323
F. Iselin, 25 Mc/s Scalers with flexible print-punch facilities . . . 330
P. B. Wilson, Investigation of the Q of a superconducting microwave cavity . . . 336
G. Amato, E. Chesi and J. C. Lambert, Multichannel oscilloscope system . . . 341
R. W. Kenney, A multichannel coincidence system . . . 342
J. B. Lindsay, A fast linear gate . . . 345
E. Gygi and F. Schneider, Nanosecond avalanche transistor circuits . . . 352
A. Albergi Quaranta and B. Righini, A new encoder . . . 355
H. I. Pizer, A fast pulse encoder . . . 358
C. Bonsignori, D. Malosti and U. Pellegrini, Transistorized analog-to-digital converter for nuclear spectrometry 362

IX. Data Analysis

G. R. Macleod, The development of data analysis systems for bubble chambers, for spark chambers and for counter experiments . . . **20** (1963) 367
R. I. Hulsizer, Development of a bubble chamber data analysis using several scanning-measuring projectors on-line to a digital computer . . . 384
J. V. Franck, P. V. C. Hough and B. W. Powell, Realisation of HPD systems at three laboratories . . . 387
H. S. White, T. Aronstein, C. Osborne, N. Webre and G. W. Moorhead, Preliminary operating experience with Hough-Powell device programs . . . 393
B. H. McCormick and R. Narasimhan, Design of a pattern recognition digital computer with application to the automatic scanning of bubble chamber negatives . . . 401
D. Maeder, Scanning patterns for automatic track and event recognition . . . 407
F. Krienen, Data analysis of digitized spark chambers . . . 413
H. Anders, D. Maeder and D. Wiskott, A preliminary study of a cathode ray tube device for scanning spark chamber photographs . . . 414
J. Richez, A trace following device . . . 419
A. H. Rosenfeld, Current performance of the Alvarez-Group data processing system . . . 422
R. Böck, An IBM program for the kinematical analysis of complete track chamber events . . . 43[illegible]
V. Ya. Almazov, I. A. Golutvin, V. D. Inkin, Yu. A. Karzhavin, V. D. Neustroev, V. D. Stepanov and I. V. Chuvilo, A device for automatic measurement of chamber photographs APS – 1 M . . . 437
Yu. A. Bychkov, Vi Chun Von, A. M. Frolov, E. Katz, T. Pacuraru, V. A. Petukhov, O. M. Tsislyak and V. Ya. Volkov, A method and device for automatic scanning of nuclear emulsions . . . 44[illegible]
L. Behr and P. Mittner, Electron and π^0 measurements in a heavy liquid bubble chamber . . . 446

G. R. Burleson, J. A. Deshong, T. F. Hoang, P. I. P. Kalmus, R. L. Kuskowski, L. Q. Niemela, A. Roberts, T. A. Romanowski, S. D. Warshaw and G. E. Yurka, Optical system and data processing for a large spark chamber system in a magnetic field 448
J. Murray, An electronic analogue system for kinematical analysis of interaction vertices 452
C. J. B. Hawkins, An approximate method of correcting for non-uniformity of magnetic field and energy loss of particles in a hydrogen bubble chamber 455
R. J. Plano and D. H. Tycko, A method for the spatial reconstruction of bubble chamber tracks 458
J. W. Burren and W. A. Woodley, The use of a flying line for automatic scanning of bubble chamber photographs 461

X. High Magnetic Fields and New Techniques

T. H. Fields, High magnetic fields **20** (1963) 465
L. W. Jones and B. De Raad, Experimental utilisation of proton storage rings 477
G. Charpak, A triggered liquid track chamber with short resolving time 482
Ph. Rosselet, A 150 kgauss transverse field pulsed magnet 487
L. Hoffmann and M. Morpurgo, A 200 kG pulsed magnet for emulsion experiments 489
E. Quercigh and A. J. Herz, Production of high magnetic fields by the use of an unconstrained mercury coil 494
R. W. Boom, L. D. Roberts and R. S. Livingston, Developments in superconductor solenoids 495
G. C. Sacerdoti, Recent advances in new high magnetic field techniques at National Laboratories of Frascati, Italy 503
E. D. Platner, J. R. Orr, G. E. Masek and R. W. Williams, Experience with foil spark chambers in high-pulsed magnetic fields 505
W. Jentschke, Invited summary and closing speech **20** (1963) 507

Instruments and Methods for Nuclear Spectroscopy

Photofractions for sodium iodide crystals, W. E. Kreger and R. M. Brown **11** (1961) 290
The non-proportional response of NaI(Tl) crystals to γ-rays, P. Iredale 336
The effect of the non-proportional response of NaI(Tl) crystals to electrons upon the resolution for γ-rays, P. Iredale 340
A magnetic spectrograph for angular distribution measurements, V. M. Rout, W. M. Jones, K. Firth, D. P. R. Petrie and A. C. L. Barnard 347
MTR phased chopper velocity selector, R. M. Brugger and J. E. Evans **12** (1961) 75
Alpha particle thickness gauge using a solid state detector, Herbert L. Anderson 111
Intrinsic line broadening in NaI (Tl) gamma-ray spectrometers, C. D. Zerby, A. Meyer and R. B. Murray . . 115
Transmission and line broadening of resonance radiation incident on a resonance absorber, S. Margulies and J. R. Ehrman 131
Adaptation of a $\pi\sqrt{2}$ beta-ray spectrometer for coincidence experiments, Ziemowid Sujkowski 187
The preparation of thin ^{18}O targets, A. H. F. Muggleton and F. A. Howe 192
Methods for the measurement of sub-nanosecond lifetimes of low-energy nuclear levels, Ekbal Bashandy . . . 227
A pair spectrometer for energies up to 2 GeV, G. Bologna, G. Diambrini, R. Toschi, A. S. Figuera, U. Pellegrini, B. Rispoli and A. Serra 263
Proton resonances suitable to shape calibrate a scintillation γ-ray spectrometer, Rolf Nordhagen 291
A method of alpha particle spectroscopy for materials of very low specific activity, C. R. Hill 299
An iron-free toroidal spectrometer with high transmission, N. A. Burgov, A. V. Davydov and G. R. Kartashov. . 316
Stabilization of the counting rate by irradiation of the liquid scintillation counting solutions with Uv-light, W. Lohmann and W. H. Perkins 329
A neutron time-of-flight spectrometer with a semi-monochromatizing chopper, S. Holmryd, K. E. Larsson and K. Otnes 355
Automatic analysis of beta-ray spectra, Werner Schneider and Torsten Lindqvist **13** (1961) 21
A low background beta-ray scintillation spectrometer using a coincidence method with a Geiger counter, Eiichi Tanaka 43
Electro-spraying: A method of making samples for β counting allowing accurate correction for self-scattering and self-absorption, E. Bruninx and G. Rudstam 131
Coincidence summing and non-linearity studies with a two-crystal scintillation gamma spectrometer, J. Kantele and R. W. Fink 141
The preparation of thin self-supporting boron films, A. H. F. Muggleton and F. A. Howe. 211
Calculation of recoil spectra induced by fast neutron spectra in nuclear emulsions, Hans Deckers 224
A two stage mass spectrometer for nuclear physics applications, H. W. Wilson, R. Munro, R. W. D. Hardy and N. R. Daly 269
Berechnung der Polschuhoberflächen eines magnetischen Teilchenspektrometers, H. U. Gersch 297
The achievement of very high pumping speeds in the ultra-high vacuum region, D. R. Sweetman 317
An automatic sample changer, G. J. Sprokel 330

Precision measurements of nuclear g-factors by the time-to-pulse-height converter method, Eckart Matthias and Torsten Lindqvist 356
Inexpensive target chamber with port movable through zero degrees under vacuum, J. R. Erskine and G. P. Browne 359
Multiple scatter corrections by Monte Carlo, J. B. Parker, J. H. Towle, D. Sams and P. G. Jones **14** (1961) 1
Some new proposals for design of Compton spectroscopes, Milorad Mladjenović 33
Das Raumwinkelfilter, ein Blendensystem zur Messung geladener Teilchen aus Kernreaktionen, B. Conrad . . . 41
Rapid carrier free separation technique, W. C. Parker and Y. Grunditz 71
Stabilizing a scintillation spectrometer by means of a low frequency modulated light source, H. J. Rijks . . . 76
Single sample spin generator spectrometer, K. V. Vladimirski and B. A. Labzov 94
Analysis of gamma-ray scintillation spectra by the method of least squares, L. Salmon 193
Experiences on the application of the sum-coincidence method, Gy. Màthé, D. Berényi and T. Scharbert . . 209
Analyse bi-dimensionnelle du temps de vol de neutrons de quelques dizaines de keV et de l'énergie des γ émis en coïncidence, R. Ballini, Y. Cassagnou et J. M. F. Jeronymo 222
Thin films of separated isotopes by cathodic sputtering, L. B. Warner 315
Width of photon line produced by positron annihilation at 15 MeV, C. R. Hatcher, R. L. Bramblett, N. E. Hansen and S. C. Fultz 337
Geometrical considerations in the measurement of the ratio L/R in the scattering of polarized nucleons, J. E. Monahan and A. J. Elwyn 348
A precision solenoidal beta ray spectrometer, J. A. Jungerman, M. E. Gardner, C. G. Patten and N. F. Peek **15** (1962) 1
An integral-bias summing spectrometer for gamma-gamma coincidence and angular correlation studies, J Kantele and R. W. Fink 69
A fast neutron time-of-flight spectrometer, C. F. Cook 137
Resolution and luminosity of crystal spectrometers for neutron diffraction, C. Caglioti and F. P. Ricci 155
A system for stabilizing the gain of a scintillation spectrometer, K. W. Marlow 188
Ein nomogramm für neutronen-flugzeitspektrometrie, H. Teutsch 203
Spectrum expander for semiconductor detector spectroscopy, G. Fabri, E. Gatti and V. Svelto 237
Mass discrimination with plastic scintillators, R. J. Griffiths, K. M. Knight, C. J. Candy and A. J. Cole 309
A germanium bent-crystal monochromator for nuclear spectroscopy, E. J. Seppi, H. Henrikson, F. Boehm and J. W. M. Dumond **16** (1962) 17
Intensity determination of photographically recorded conversion lines, H. Slätis 51
The determination of mass discrimination in a mass spectrometer, G. H. Debus 63
Loading device for irradiated samples at a bent crystal gamma-ray spectrometer, S. Nilsson 89
A double-focussing, alternate-gradient, magnetic spectrometer for momenta up to 800 MeV/c, G. Sacerdoti and L. Tau 139
A magnetic spectrometer for neutron capture experiments, G. Bäckström, A. Bäcklin, N. E. Holmberg and K. E. Bergkvist 199
A Moussa-Bellicard type iron-free double-focusing beta-ray spectrometer, Q. L. Baird, J. C. Nall, S. K. Haynes and J. H. Hamilton 275
A scintillation spectrometer for high energy beta decays, J. G. Cramer Jr., B. J. Farmer and C. M. Class . . 289
Gamma spectrometry with high-efficiency sum-peak coincidence spectrometer, J. Kantele **17** (1962) 33
On the measurement of β-γ circular polarization correlations in forbidden β decay, A. Gelberg 60
The analysis of continuous spectra using the matrix method, R. E. Rand 65
Two-fold focussing $2 \times \pi\sqrt{2}$-angle beta-spectrometer, S. A. Shestopalova 94
Phasing two choppers from a motor generator source, R. M. Brugger and K. A. Strong 129
A new double focusing beta spectrometer and the empirical optimization of its performance, A. A. Bartlett, R. A. Ristinen and R. P. Bird 188
Measurements of lifetimes of radioactive sources, J. E. Monahan, S. Raboy and C. C. Trail 225
Differential cross sections for D-T neutrons by time of flight methods, J. Rethmeier, C. C. Jonker, M. Rodenburg, J. W. Hovenier and D. R. Van der Meulen 273
Electron scattering experiments using an intermediate image beta-ray spectrometer, C.-J. Andreen. 321
Apparatus and methods used in a slow neutron resonance scattering experiment, H. Ceulemans, M. Nève de Mévergnies and F. Poortmans 342

Isotope Separators

Collection and sputtering experiments with noble gas ions, O. Almén and G. Bruce **11** (1961) 257
Sputtering experiments in the high energy region, O. Almén and G. Bruce 279

Nuclear Electronics

Pile up rejection circuits, S. Rozen (Rozenstein) **11** (1961) 316
Mesure de temps courts par semi-conducteurs et photomultiplicateurs saturés, R. Ballini et E. Pomelas . . . 331

Ein Differential-Koinzidenzkreis für den Nanosekunden-Bereich, W. Meiling, J. Schintlmeister und F. Stary **11** (1961) 355
Sekundärelektronenvervielfacher zur Abtastung von Kernspurplatten, Gerhard Luck 362
An electronic data-acquisition system for use with a complex nuclear physics experiment, Stanley C. Baker, Frederick A. Kirsten, Dick A. Mack and Clyde Wiegand **12** (1961) 11
A transistor coincidence-discriminator circuit for 10^{-8}-second pulses, Stanley C. Baker 20
A solid-state chronotron for digitizing time delays, Arthur E. Bjerke, Quentin A. Kerns and Thomas A. Nunamaker 25
A triggered nanosecond light, Quentin A. Kerns and Gerald C. Cox 32
An 1800-bit buffer store and readout system, Frank Evans and Frederick A. Kirsten 39
A multifold coincidence-veto circuit using transistors, Arpad Barna, J. Howard Marshall and Matthew Sands 43
Transistorized linear gate for photomultiplier pulses, F. F. Liu and F. J. Loeffler 124
Utilization of tunnel diodes in fast trigger circuits, Thomas A. Rabson 127
Simple scheme for using the selective storage of a multichannel pulse height analyser in coincidence counting, Rolf Nordhagen 151
A stable 0.1% beam current integrator for the range 0.1 to 20μA, G. J. F. Legge 195
Some transistor circuits for nuclear physics research, R. Gabriel and A. M. Segar 307
Low jitter pulse discriminator and shaper, M. Ageno 341
Sorting of two coincident pulses according to their amplitudes, M. Konrad and B. Turko **13** (1961) 29
Paired-chamber type pile oscillator, Toyojiro Fuketa 35
A twenty-Mc/s transistor decade scaler, T. K. Alexander and D. R. Heywood 83
An automatic track following device, G. A. Doran and M. Jobes 124
A fast pulse-shape discriminator with applications as a spectrometer and sensitive monitor for 1–30 MeV neutrons, L. J. de Vries and F. Udo 153
Fast tunnel diode circuits for NaI(Tl) detectors, Georges C. Bret and Erwin F. Shrader 177
100 Mc/s tunnel-diode discriminator and pulse-shaper, A. Adler, M. Palmai and V. Perez-Mendez 197
Measurements of instrumental time delay and resolution in a fast coincidence system, W. M. Currie, R. E. Azuma and G. M. Lewis 215
An amplitude-insensitive system that distinguishes pulses of different shapes, T. K. Alexander and F. S. Goulding 244
A random pulse generator with provision for excursions, R. J. Lamden 247
An instantaneous pulse frequency meter for random pulses, K. Gopalan and E. S. Rajagopal 253
Spark counter as a fast pulse generator, S. L. Gupta and N. K. Saha 258
Ein Kabelverstärker für Impulse grosser Amplitude, C. Noack und W. Roether 261
Sur un circuit rapide de mise en forme à seuil règlable utilisant des diodes tunnel, S. Gorodetzky, A. Muser, J. Zen et R. Armbruster 282
Statistical errors arising from use of a gated pulse train for total live time measurement during pulse amplitude analysis, M. O. Deighton **14** (1961) 48
A network analogue for a quadrupole lens system, C. F. Coleman 53
An array of solid state counters with delay line pulse sorting, O. M. Bilaniuk, B. B. Marsh, A. K. Hamann and J. C. Heurtley 63
Tragbarer Pulsgenerator für Prüfzwecke, Thomas Friese 83
A precision current integrator, C. H. Vincent and G. Sapsford 160
Single channel transistorized pulse height analyzer, A. Alberigi-Quaranta and B. Righini 173
Design and use of a self-monitoring coincidence arrangement of nanosecond resolution, S. C. Pancholi and N. K. Saha 189
On two pulse mode and improvement in dead time of Dekatron display analysers, P. K. Patwardhan 200
Circuit de coïncidence à diodes tunnel, S. Gorodetzky, A. Muser, J. Zen et R. Armbruster 205
Pulse analyzing system for a gridded ionization chambier, Masahiro Tsukuda 241
System for automatic recording of nuclear data, Peter Alexander 288
Coincidence analyzer for use with pulsed accelerators, Hiroshi Taketani 311
An electronic pulse multiplier for applications in nuclear physics, J. H. Aitken 343
A simple and accurate method for calibrating nanosecond time-to-pulse-height converters, R. L. Graham, J. S. Geiger, R. E. Bell and R. Barton **15** (1962) 40
The nonproportional response of a NaI(Tl) crystal to diffracted X rays, T. H. Jones 55
Untersuchung rauscharmer Röhren für Vorverstärker, H. J. Dubrau 77
The digiscat – A digitally controlled device for the measurement of multiple scattering in nuclear emulsions, M. J. B. Duff 87
Préamplificateur linéaire à faible bruit pour détecteur à jonction, S. Gorodetzky, M. Port et J. Graff 183
Multichannel amplitude analyzer of the "Grey Wedge" type, B. Schlenk 231
Pulse shaping and standardizing of photomultiplier signals for optimum timing information using tunnel diodes, A. E. Bjerke, Q. A. Kerns and T. A. Nunamaker 249
Das Dimensionieren des Beschleunigungsspaltes beim Mikrotron, A. Paulin 306
An electrical delay circuit, L. Wåhlin and E. Blignaut 315

Simple logarithmic pulse height analysers, J. C. Barton and A. Crispin 16 (1962) 39
Dependence of time and amplitude properties of a new millimicrosecond-photomultiplier upon the operating parameters, A. Eckardt, P. Görlich, H. J. Pohl and R. Prager 44
A new type of fast amplifier, M. Ageno and C. Felici 59
Data logging equipment for nuclear physics experiments, B. Collinge and F. Marciano 145
Circuit discriminateur d'amplitude utilisant des diodes "Tunnel", R. Van Zurk 157
Precise automatic control by proton resonance of a continuously variable magnetic field, C. H. Vincent, D. Kaine and W. G. King 163
A pulsed magnet for high magnetic fields, R. Evangelisti, G. Pasotti and G. Sacerdoti 189
Ein transistorisierter Einkanal-Impulshöhenanalysator, P. Polly 214
Ein transistorisierter Dreifach-Impulsgeber, P. Polly 221
Consecutive amplitude analyses for simultaneous pulses, D. F. Hebbard 267
Auswertegerät zu einem Vielkanaldiskriminator, H. Ostertag, K. H. Lauterjung und W. Gruhle 301
1 Mc/s scaler using gas-filled cold cathode counting tube EZ 10, F. Požar 310
Signal-to-noise ratio of the twin-T nuclear magnetic resonance bridge, D. Gheorghiu and A. Valeriu 313
An electron spin resonance magnetometer for time-varying fields, J. L. Stahlke 17 (1962) 157
System for energy control and absolute calibration of a 23 MeV betatron, K. N. Geller 161
Angular correlation measurements with multichannel analyzers, E. Brooks Shera and K. J. Casper 174
A transistorized fast coincidence circuit for use with slow scintillators, S. Rozen and M. Etzion 332
A simple transistorized fast a.c. discriminator, S. Rozen and E. Altman 337
Application des transformateurs d'impulsions en électronique rapide impulsionnelle, S. Gorodetzky, A. Muser, J. Zen et R. Armbruster 353

Plasma Physics

Magnetohydrodynamic method of injecting charged particles into a magnetic field, C. C. Chang 12 (1961) 345
Some characteristics of a toroidal pinch with a reversed field, S. Berglund and S. Svennerstedt 13 (1961) 201
Magnetic field and temperature variations in a toroidal pinch discharge, S. Svennerstedt, S. Berglund and S. Westerlund 17 (1962) 231

Miscellaneous

The loading of nuclear emulsions with bismuth, H. G. de Carvalho and M. Muchnik 15 (1962) 101
Untersuchung der Verzerrungen in NIKFI-R-Emulsionen. Teil I. Einflusz des Fixierprozesses, I. Hauser . . . 129
Thin cation-exchange foils, S. Bjørnholm and C. M. Lederer 233
Effect of sample nonuniformity on cross section measurements, O. D. Simpson, N. H. Marshall and R. C. Young 16 (1962) 97
Untersuchung der Verzerrungen in NIKFI-R-Emulsionen, Teil II. Einflusz der Trocknungsbedingungen, I. Hauser, H. Engelhardt, U. Krecker und K. Lanius 113
The design and construction of magnetic fields for plasma research, M. Cryzinski and M. Sadowski 129
Resonance widths for proton capture – A graphical method, A. W. Borgi and O. Lönsjö 17 (1962) 31
Optimum design of experiments on exponential absorption with n observations, E. J. Burge 248

Letters to the Editor

Further comments on accidental coincidences in fast-slow coincidence systems, E. Brooks Shera 12 (1961) 198
Higher order events in coincidence counting, R. E. Bell 199
Proposal for a storage ring for relativistic charged particles, R. Evangelisti and G. Sacerdoti 201
Total conversion coefficients with a sum-coincidence NaI spectrometer, J. C. Vanderleeden and M. K. Ramaswamy 362
Extraction of a beam and energy regulation in the cyclotron with azimuthally varying magnetic field, A. A. Arzumanov, R. A. Metshcherov, E. S. Mironov, L. M. Nemenov, S. N. Ribin, J. A. Kholmovskij 363
The scattering surface method of measuring dispersion relations with a phased chopper velocity selector, R. E. Schmunk and R. M. Brugger 365
A low priced automatic printout system for the Hutchinson-Scarrott analyser, Richard C. McCall and E. Ingemar Larsson 13 (1961) 92
A fast flip-flop circuit utilizing tunnel-diodes, Y. Hazoni 95
Elimination of the dead space between channels in a Hutchinson-Scarrott pulse height analyser, R. E. Jennings and R. E. Rand 97
A possible method for distinguishing charged particles with semiconductor detectors, N. Cindro 99
The estimation of the resolving time of a counting apparatus, G. R. Martin 263
A constant input impedance plug-in for the Tektronix 581 oscilloscope, C. Infante 264

Conséquences pratiques de l'influence de la résistance de charge sur l'effet "couronne" dans les détecteurs à étincelles du type (fils-plan), P. Laborie et D. Blanc 14 (1961) 237
A pulse resolver using tunnel diodes, John D. McGervey 351
Coil arrangement for a β-ray spectrometer with curved exit slit, H. Daniel and P. Jahn 353
Gallium phosphide diodes for the production of fast light pulses, J. W. Allen and P. E. Gibbons 355
A liquid air trap for nuclear spectroscopy, S. Bashkin and T. R. Ophel 15 (1962) 112
A 300 watt 100 Mc/s R.F. oscillator, M. K. Salomaa 113
Suggested new method of injection into two tandem accelerators, F. A. Julian and A. C. Riviere 115
Dual-count transfer system for dekatron, K. S. Kuchela 117
High efficiency small volume g–m detector, C.-J. Andreen, W. Parker and H. Slätis 205
A liquid deuterium target refrigerated by liquid hydrogen, G. Moneti and V. Montelatici 207
Total internal conversion coefficients of low energy cascade gamma-rays by a sum coincidence technique, S. K. Sen and B. G. Hogg 209
A telescope pair spectrometer for 5–20 MeV gamma-rays, F. Cvelbar, A. Hudoklin, M. V. Mihailović and V. Ramšak 211
Threshold detectors for measuring fast neutron spectra, R. Dierckx 355
Construction of a sample changer based on the Geneva wheel principle, H. Moret 357
A fast transistor scaler for decimal counting, K. S. Kuchela 16 (1962) 287
A transistor probe unit for nuclear counters, C. Edwards 354
Molecular plating: a method for the electrolytic formation of thin inorganic films, W. Parker and R. Falk . . . 355
Stabilizing the sum coincidence spectrometer, J. L. Demuynck and O. J. Segaert 358
Some results using bulk ionisation semi-conductor detectors, C. J. Batty, R. J. Griffiths and P. E. Gibbons . 17 (1962) 125

Book Reviews

E. Glueckauf (editor) Atomic Energy Waste, Its Nature, Use and Disposal (Torsten Lindqvist) 12 (1961) 203
Advances in Electronics and Electron Physics, Volume XII, 1960: Photo-Electronic Image Devices (P. A. Tove) 203
Thomson, A. S. *et al.* (editors), Nuclear Reactor Containment Buildings and Pressure Vessels (Proceedings of International Symposium at the Royal College of Science and Technology, Glasgow) (Stig O. W. Bergström) 204
Directory of Nuclear Reactors, Vol. III: Research, Test and Experimental Reactors (Supplement to Vol. II) (International Atomic Energy Agency, IAEA, Vienna 1960) (Matts Råås) 204
Codes for Reactor Computations. (Proceedings of a Seminar, Vienna, April 25–29, 1960) (Werner Schneider) . . 367
Ridenour, Louis N., and William A. Nierenberg (editors) Modern Physics for the Engineer (second series, 1961) (Kai Siegbahn) 367
Safe operation of critical assemblies and research reactors, IAEA, Vienna, 1961 (Torsten Lindqvist) 13 (1961) 266
Huber, P. and K. P. Meyer (editors) Proceedings of the international symposium on polarization phenomena of nucleons, Basel, July 4–8, 1960 (Arne Johansson) 266
Gorter, C. J. (editor) Progress in low temperature physics, Volume III (O. Beckman) 266
Chase, R. L. Nuclear pulse spectrometry (P. A. Tove) 267
Nuclear propulsion. Bibliographical series No. 3, International Atomic Energy Agency, Vienna, 1961 (N. Robert Nilsson) 267
Regulations for the safe transport of radioactive materials, International Atomic Energy Agency, Vienna, 1961 (Börje Larsson) 267
Hyder, H. R. McK. (editor) Progress in nuclear energy, Ser. II: Reactors, Volume 2 (Torsten Lindqvist) . . . 267
Small and Medium Power Reactors, Volume I, Conference Proceedings Vienna, 5–9 September 1960, IAEA, Vienna 1961, STI/PUB/30. Pp. 617, US $ 9.– (Torsten Lindqvist) 268
Kiefer, H. and R. Maushart, Überwachung der Radioaktivität in Abwasser und Abluft (Teubner Verlagsgesellschaft, Stuttgart 1961) (Börje Larsson) 268
Schultz, M. A., Control of nuclear reactors and power plants 14 (1961) 240
Catch, J. R., Carbon-14 compounds 240
Thewlis, J. (Editor), Encyclopedic dictionary of physics (K. Siegbahn) 15 (1962) 119
Bagge, E. and J. Scholvin (Editors), Nuclear reactor for ship propulsion (T. Lindqvist) 119
Higatsberger, M. J. and F. P. Viehböck (Editors), Electromagnetic separation of radioactive isotopes (G. Andersson) 119
Small and medium power reactors, Vol. II. Conference Vienna 1960 (T. Lindqvist) 120
Instruments and measurements, Vol. 2. Fifth international instruments and measurements Conference (S. Hagström) 288
White, P. A. F. and S. E. Smith, Inert atmospheres (B. Aronsson) 288
Nuclear ship propulsion, proceedings of a symposium (T. Lindqvist) 288
Radioisotopes in the physical sciences and industry, Vol. II (G. Bäckström) 359
Lifkin, H. J., Beta decay for pedestrians (G. Bäckström) 16 (1962) 360
Proceedings of a symposium, Vienna, 3-10 May 1961 (I. U. Olsson) 360
Nuclear reactor fuel elements. Metallurgy and fabrication, A. R. Kaufmann (ed.) 17 (1962) 128

News Items

Rutherford Jubilee International Conference (September 4th to 8th, 1961) **11** (1961) 366
Completion of Spirally Ridged Proton Cyclotron at U.C.L.A. 368
Conference on sector-focused cyclotrons (17–20 April, 1962) **13** (1961) 265
International conference on the physics of semiconductors (16–20 July, 1962). 265
International conference on sector-focused cyclotrons, University of California, Los Angeles, 17–20 April 1962 . **14** (1961) 239
Neutron beam research in solid state physics **15** (1962) 359
Conference on low energy nuclear physics 359
Conference on sorption properties of vacuum deposited metal films **17** (1962) 128
Symposium on education in vacuum science and technology 128

Errata

T. J. Gooding and H. G. Pugh, The response of plastic scintillators to high-energy particles, **7** (1960) 189, . . **11** (1961) 365
R. Benaroya and W. J. Ramler, Deflection coil for an external accelerator beam, **10** (1961) 120 . . . . . **12** (1961) 367
R. Gabriel and A. M. Segar, Some transistor circuits for nuclear physics research, **12** (1961) 307. . . . . **15** (1962) 120
C. H. Vincent and R. J. Lamden, An experimental equipment for the rapid recognition of excursions in reactors at low flux levels, **14** (1961) 143 360